Sudan No. 1 (1929)

REPORT

on the

Finances, Administration and Condition of the Sudan in 1927

WITH REPORT ON THE LEE STACK INDEMNITY FUND

Presented by the Secretary of State for Foreign Affairs
to Parliament by Command of His Majesty

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Report on the Finances, Administration and Condition of the Sudan in 1927, with Report on the Lee Stack Indemnity Fund.

Lord Lloyd to Lord Cushendun.

My Lord, *Cairo, November* 24, 1928.

I HAVE the honour to transmit to your Lordship herewith the Governor-General's report on the Sudan for the year 1927.

2. The most noteworthy feature of the year was the continued success of the Gezira irrigation scheme, a large yield coinciding once more with good prices. Sir J. Maffey adds a warning, however, that these results may not always be maintained, and that it is consequently necessary to frame conservative estimates based on average returns. The same observation, as he points out, applies to the sugar monopoly, and, with a view to counteracting these probable fluctuations, equalisation funds have been created, to which the revenues derived from the Gezira scheme and the sugar monopoly will be credited, a conservative sum being allotted each year to revenue in the budget. It is intended to use these funds to balance the budget in bad years when the estimates cannot be realised.

3. A further feature to which Sir J. Maffey draws attention is the decrease in normal administrative revenue due to the depressing effect of bad rains in 1925 and 1926, which the better rains of 1927 failed to remove. This decrease is, as he points out, a serious matter. Normal administrative expenditure, as opposed to productive expenditure in business undertakings, is at the same time tending to increase, and it is pointed out that until in a normal year the normal revenue is definitely established at a higher figure than the average of the past four years any material expansion of administrative expenditure would be unjustified. A comprehensive review of the position respecting such expenditure, as it has developed since the last enquiry in 1922, is being undertaken.

4. Receipts from Kassala, the gum royalty, customs and railways were satisfactory. The budget yielded a surplus of £E. 379,452, receipts exceeding the estimates by £E. 269,945.

5. Sir J. Maffey reports that the scheme for strengthening the authority of native chiefs, and for appointing them judges of courts with a defined jurisdiction for the trial of civil and criminal cases, which was alluded to in paragraph 253 of his report for 1926, has progressed and proved popular amongst the native populations affected. One beneficent effect of the scheme has been to create a tendency on the part of small tribal units to coalesce with larger tribes.

6. Public order during the year was troubled by a minor outbreak in Darfur, a local fiki setting himself up as the Mahdi; there were also disturbances in the Nuer country, caused by the hostile attitude of the witch-doctor Gwek Wonding, as well as the murder, by another section of Nuer, of Captain Fergusson, the local District Commissioner. This unhappy event has deprived the Government of a devoted and highly experienced officer. A novel feature of the latter outbreaks, to which Sir J. Maffey draws attention, is the difficulty of gaining touch in such circumstances with the backward southern tribes.

7. Other events of importance were (*a*) the progress of the new railway from Kassala to Gedaref, and the approval of the further extension of the line to Makwar, and (*b*) the occurrence of a serious epidemic in Darfur of relapsing fever from West Africa, which was, however, successfully stamped out. In the course of the year the Kassala Company's concession in the Gash Delta was transferred to the Sudan Government, and a new concession granted to the company in the extension of the Gezira scheme.

I have, &c.
LLOYD, *High Commissioner.*

Enclosure.

Sir J. Maffey to Lord Lloyd.

My Lord, *Khartum, November* 7, 1928.

I HAVE the honour to submit for your Lordship's information a report on the finances, administration and condition of the Sudan in the year 1927, including an annex relating to the Lee Stack Memorial Fund.

I have, &c.
J. L. MAFFEY,
Governor-General of the Sudan.

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Glossary.

Ardeb	=	300 lb.
Dura	=	Millet.
Fiki	=	"Holy man."
Ishhad	=	Mohammedan Law Court decree.
Jebel	=	Hill.
Kantar (cotton)	=	315 rotls = 312·0075 lb.
Large kantar (cotton) ...		
Small kantar (cotton) ...	=	100 rotls = 99·05 lb.
Kantar (gum)	=	100 rotls = 99·05 lb.
Lubia	=	*Dolichos lablab.*
£E.	=	1,000 millièmes = 100 P.T. = £1 0s. 6¼*d.*
Maazun	=	Travelling representative of the judge of a Mohammedan Law Court.
Mamur	=	Native administrative officer
Mek	=	Chief.
Millième	=	About ¼*d.*
P.T. (piastre)	=	About 2½*d.*
Rotl	=	·99 lb.
Sagia	=	Water wheel.
Snk	=	Market.
Ushur	=	10 per cent. assessment tax on crops.
Zeer	=	Large earthenware water vessel.

Chapter I.—General.

In my annual report of last year I drew particular attention to the importance of placing upon a more clearly defined basis our policy in regard to native administration. I stressed the importance of the time factor in this connexion and mentioned the passing, early in 1927, of a simple permissive ordinance having as its ultimate object the strengthening of the authority of the native chiefs as administrative and executive heads of their tribes or districts.

2. The passing of the ordinance has been followed by the preparation of concrete proposals for its application in those parts of the country in which local conditions and personalities offer the most promising field for experiment, and particular care has been taken by the provincial Governors in the framing of their schemes to follow lines which, being consonant with local habits of thought and custom, have the full support of the people themselves, to safeguard the interests of minorities and to avoid undue dislocation.

3. One general effect of the discussions that have taken place between the provincial staff and the tribal elders, as a preliminary to the constitution of native courts for the trial, within certain defined limits of reservation, of criminal and civil cases, has been the development of a distinct tendency among the smaller tribal units to coalesce or attach themselves to larger tribes living in the neighbourhood. This tendency I regard as eminently healthy and one to be encouraged.

4. The position, at the time of writing, is that a sum of £E. 15,000 has been set aside in the budget of the current year with the main purpose of providing adequate remuneration to the sheikhs and chiefs for the work which is being entrusted to them. Certain minor expenses will also be incurred in the building of simple court-houses and the payment of native messengers, &c. As against this expenditure, I anticipate it will be possible gradually to cut down the cost of the existing bureaucratic machinery, or, at the least, to set a limit to its otherwise inevitable increase.

5. Simple rules for the conduct of the courts and the defining of their jurisdiction are in course of completion, and the system envisaged above should be in full swing within the next few months. There is no doubt as regards its popularity among the natives of the provinces who are directly affected, and the fact that certain undercurrents of criticism have from time to time been noticeable on the part of the town-dwelling *intelligentsia* cannot be regarded as impugning its essential soundness.

6. To turn now to the economic sphere. The second season of the working of the Gezira irrigation scheme was only less successful than the first. The co-operation of the cultivators with the inspectors of the Sudan Plantations Syndicate, the favourable climatic conditions, and a relative absence of cotton-pests, combined to produce a crop which again exceeded our estimates.

7. It may not, however, be amiss to sound a note of caution here, for none of the three partners in the scheme would be justified in counting upon a continuance of such unexpected returns, and provision must be made for the leaner years which inevitably tend to occur in any agricultural enterprise.

8. The popularity of the scheme continues unabated; not only did the poor rains of 1925 give it a good send-off, but also, while the cultivators in the scheme were possessed of unaccustomed wealth at the beginning of the year under review, the failure of the rains in 1926 found the inhabitants of the surrounding country in straits for food for themselves and their animals. There can, indeed, be little doubt that many thousands of men and animals were saved from actual famine by the demand for labour and the abundance of food and grazing in the irrigated area.

9. Though the 1927 rains were much better, the food crops grown inside the Gezira area were not diminished, and at the time of writing there is no indication that any serious shortage of labour has been caused by the reduction of the economic pressure to work.

10. The food shortage which occurred over a large part of the country, notably in parts of Kordofan and the White Nile, was serious during the first half of the year. Relief in the shape of remission of taxes, grain loans, and the import of grain was given, and the generally abundant rains of 1927 in the northern and central Sudan have done very much to improve the general situation.

11. Exceptions to the general improvement are to be found in the south, where failure of rains have made famine relief necessary in certain districts, in Berber Province, in the north, where locusts destroyed the greater part of the crop, and in certain areas of the

White Nile and Kordofan Provinces. Good rains in 1928 should effect a complete recovery in these districts.

12. Locusts did widespread damage in the north and east during the latter part of the year, though strenuous efforts were made to combat them; these efforts, coupled with the co-operation that is being arranged with the Italian authorities in Eritrea, will, I hope, reduce the plague to manageable proportions in 1928.

13. One of the most satisfactory features of the year has been the development of the water supply in the White Nile, Kassala, Berber, Fung and Kordofan Provinces by the opening of new wells and the digging of reservoirs or "hafirs" in places where rain-water naturally collects. Government has given assistance and advice, and the people, both nomad and sedentary, have quickly appreciated the advantages of wider areas for cultivation, gum picking and grazing opened up to them by the improved water supply.

14. Excellent progress has been made with the new railway from Kassala to Gedaref, and with the new bridge over the Atbara. It is anticipated that railhead will reach Gedaref early in the new year. Arrangements are being made for the Gedaref–Makwar extension which has recently been approved.

15. The bridge over the White Nile from Khartum to Omdurman, to be known as the Omdurman Bridge, was completed by the end of the year, and will be opened to traffic on the 16th January, 1928. A partial and successful service of electric trams began in November, and the full service, providing a most valuable link between the native and the European capitals of the Sudan, will be inaugurated with the opening of the bridge.

16. The problem of motor transport is receiving serious attention. The old Ford car is soon to be a thing of the past, and the question of its most suitable successor is being examined in detail. The number of motor cars in public and private use continues to expand; more and more roads are opened for motor traffic, particularly in the south and west, and bridges and ferries are being improved. The transport difficulties experienced by the troops during the recent patrol in the Upper Nile Province have again shown the administrative value of a road system even though no great commercial or economic benefits can be expected for many years.

17. Air traffic, both official and private, continues to increase. The completion of the experimental flights for the Khartum–Kisumu mail service is in view. A squadron of the Royal Air Force was stationed at Khartum in October. The chain of landing grounds from Wadi Halfa to Mongalla is complete, and the number of landing grounds in areas remote from the Nile grows steadily. Rest-houses at Wadi Halfa, Malakal and Juba, the chief halting places on north and south flights, are to be erected.

18. The attention directed to education in the south, referred to in my report last year, continues. Notable advances have been made in the opening of the Stack Memorial School at Wau, and by the appointment of a resident inspector of education for the Bahr-el-Ghazal Province. The work of the Government and the missions

has been further co-ordinated, and an attempt will be made at the Language Conference, to be held at Mongalla early in 1928, to grapple with one of the major difficulties in advancing the cause of education amongst the polyglot tribes of the south.

19. I am happy to be able to report that the eastward march of the epidemic of relapsing fever from West Africa was stopped in Darfur, and the danger of its getting a hold on the thickly populated areas of the Gezira averted. By the end of the year the epidemic was practically stamped out in Darfur itself. I would like to pay a special tribute to the devoted efforts of both the provincial and medical authorities in achieving this success.

20. The administration of the Beja-speaking tribes of the Eastern Sudan has long presented a problem to which no entirely satisfactory solution could be found. Towards the end of the year Mr. F. T. C. Young was appointed as commissioner to investigate and report on the whole problem.

21. During the year negotiations with the Kassala Cotton Company were successfully concluded for the transfer of their concession in the Gash Delta to the Sudan Government, and for the granting of a new concession in the extension of the Gezira scheme.

22. The occupation of the Taposa country, referred to in last year's report, may be regarded as practically complete. The restitution of 500 cattle to the Longarim from the Taposa was achieved with very little opposition in March. In May, however, the murder of a policeman inflamed the young men of one section, some of whom rashly attacked a platoon of the Equatorial Corps. Nor were these unfortunate episodes without good results, for the murderers of the policeman were brought to justice and the chiefs of the other sections dissociated themselves from the hostile action. By the end of the year the Taposa had themselves cleared 100 miles of road, a sign of submission to Government, and conditions were entirely quiet.

23. I cannot close this general survey of affairs in the Sudan without reference to the tragic murder of Captain V. H. Fergusson, O.B.E., by a section of the Nuer at Lake Jorr in the Bahr-el-Ghazal on the 15th December. The murder appears to have been organised by a few malcontents, and the respect and affection in which Captain Fergusson was held throughout his district were thrown into strong relief by the manner in which news of his death was received throughout the province. Captain Fergusson devoted the last seven years of his life, in spite of the attendant loneliness and hardship, to the service of the people committed to his charge, and he has left an example of quiet and unassuming self-sacrifice which the Sudan will not forget.

Personnel.

24. The loss sustained by the Sudan through the retirement of senior officials was not so heavy during the past year as in 1926.

25. With the retirement of Mr. R. Hewison, O.B.E., there closes a chapter in the history of the development of agriculture in the Sudan. He joined the Sudan Government Agriculture Depart-

ment in 1904, was appointed assistant director in 1910 and director in 1918. By the time Mr. Hewison retired in 1927 the great Gezira cotton-growing scheme, in whose preparation he had played so large a part, had been proved an unqualified success. In 1920 Mr. Hewison was appointed a member of the Governor-General's Council, where his knowledge of business, experience and judgment were of great value. Fortunately, these will not be entirely lost to the Sudan, as Mr. Hewison will remain as agricultural adviser for the Gezira scheme.

26. Mr. A. A. R. Boyce, C.B.E., joined the Sudan Government in 1906 as an inspector of surveys, and served in that capacity as chief town surveyor and assistant director (Topographical). In 1923 he was appointed Director of Surveys, a post which he held till his retirement in November 1927. Mr. Boyce completed an immense amount of triangulation work all over the Sudan, the value of which was recognised not only by the Sudan Government, but also by the Royal Geographical Society, who awarded him the Gill Memorial in recognition of his triangulations from Omdurman to the western frontier of the Sudan. He was created C.B.E. in 1925.

27. Mr. G. R. Storrar, M.B.E., joined the Railway Department on the 14th April, 1905, as an engineer, and was employed on the construction of the Abu Hamed–Kareima line. He was resident engineer on the Kosti Bridge during its construction in 1909–11, and was actively engaged on all railway extensions, and was finally resident engineer in charge of the extension of the line to Kassala. He became assistant chief engineer on the 1st January, 1922, and was promoted to chief engineer on the 12th May, 1926. His abilities were considerable, and his experience of railway engineering were of the greatest value during his service of over twenty-two years. He retired on the 18th November, 1927, and his loss will be much felt by the department.

28. I have also to record the retirement of several prominent members of the Political Service.

29. Mr. S. A. Tippetts joined the Sudan Political Service in 1902, and during his twenty-five years in the country served in the Provinces of the Upper Nile, Red Sea, Kordofan, Fung and Halfa, and for nearly two years was seconded to the Legal Department for land settlement work. He was appointed Governor of Halfa Province in April 1917. In March 1922 he became, and remained till his retirement, Governor of the Red Sea Province, in which province he had previously served as Deputy-Governor. Tactful and considerate towards all subordinate staff with whom he came into contact, he found a task peculiarly suited to his gifts in controlling the development of Port Sudan, with its many varied and at times conflicting departmental and commercial interests. The great success of the work Mr. Tippetts did there was a fitting culmination to his long and distinguished career in the Sudan.

30. Major C. S. Northcote joined the Egyptian Army in April 1909, and was seconded to the Sudan Political Service in February 1912, served six years in the Bahr-el-Ghazal, one year as Governor of Mongalla, and for the last nine years of his service as Governor

of the Nuba Mountains Province. Major Northcote had an intimate knowledge of the problems of the uncivilised parts of the Sudan; his unsparing efforts for and sympathy with the Nuba have done more than anything else to establish their confidence in the Government and to set them upon the path of progress. They have lost a friend and the Sudan a loyal and devoted servant.

31. Mr. E. N. Corbyn joined the Sudan Political Service in August 1904, and served in the Blue Nile and Kordofan Provinces, and as Governor of the White Nile, Khartum and Fung Provinces. He served, in addition, for short periods in the Legal, Finance and Civil Departments, and was finally appointed Director of Education in succession to Mr. Crowfoot in December 1926. By his early retirement the Sudan has lost prematurely an administrator of wide experience and ability. His short tenure of office as the head of a large and growing Department of Education was a fitting conclusion to a distinguished career both as a scholar and a public servant.

32. Mr. T. A. Leach joined the Sudan Political Service in September 1906, and for four years was seconded to the Legal Department; subsequently, he served in Halfa, Blue Nile, Khartum, Kassala, Kordofan, Red Sea and Berber Provinces. An excellent Arabic scholar, he acquired a wide knowledge of the natives and the problems of the Northern and Eastern Sudan. In December 1921 he was appointed Governor of Berber and was subsequently transferred to Halfa Province.

33. Mr. R. A. Bence-Pembroke joined the Sudan Political Service in September 1907 and served for eight years in Kordofan, and subsequently in Khartum, Fung, Mongalla and Darfur Provinces. In October 1924 he was appointed Governor of Mongalla, but ill-health, which subsequently caused his retirement, necessitated his transfer to Darfur after a year. Here he threw immense energy into studying the problem of native administration for the Furs and Arabs, and it is a matter for deep regret that his career as a public servant should have been cut short so prematurely.

34. At the end of the year Sir George Schuster, the Financial Secretary, left the Sudan for the last time with the East African Commission, though I am happy to be able to say that he has not yet finally severed his connexion with us, since he retains the post of financial adviser. The subsequent pages of this report reveal something of the great debt owed to him by the Sudan, but I would like to take this opportunity to quote the resolution passed by Council at the final meeting attended by him:—

> "I should like to move a formal vote of thanks to Sir George Schuster, firstly, for the great work that he has done for the Sudan Government, more especially in establishing our finances and our credit on a firm foundation, and, secondly, for the assistance that he has rendered for five years to the Governor-General in Council not only in his own special sphere but particularly in the wider questions of policy and administration that have continually confronted the Council during his tenure of office."

Chapter II.—Frontiers.

Arabia: The Hejaz.

35. The pilgrimage of 1927 was the largest for many years. The number of pilgrims arriving in the Hejaz from foreign ports is estimated at 140,000, while the total number assembled at Arafat was not less than 240,000. The improved arrangements made by the Hejaz Government and the assurance of an unwonted security were no doubt the main factors responsible for these large numbers. For the richer pilgrims the facilities of travel were greatly enhanced by the newly instituted service of motor cars.

Abyssinia.

36. Eight incursions into Sudan territory by Abyssinian poachers came to the notice of the Government. These marauders come for the most part in small parties and are usually able to evade the police. An Abyssinian brigand, by name Lij Mesfin, with followers variously estimated at from fifty to four hundred, was reported in December to be near the junction of the Atbara and Bahr-el-Salam Rivers. On the arrival of a company of the Eastern Arab Corps, the majority decamped into Abyssinia. Twelve armed Abyssinians came into contact with the baggage train of the troops, but no shots were exchanged, and the remainder of the band, which was obviously in quest of elephant and other game, retired to their own country without doing any damage.

37. Mr. W. P. Holland, lately District Commissioner in Mongalla Province, was appointed His Britannic Majesty's consul for South-Western Abyssinia, to reside at Maji, on the 8th December, 1927, in succession to Mr. A. W. Hodson, C.M.G.

Eritrea.

38. In October the Commissario of Agordat (Eritrea) reported certain acts of aggression committed by Hadendoa tribesmen of Kassala Province on the Beni Amer Labat of Eritrea. The Hadendoa were accused of raiding Labat cattle and sheep on two occasions, and it was alleged that, during an affray arising out of one of these raids, one of the Labat was killed and seven others dangerously wounded. The Hadendoa contended that the raids were undertaken to exact compensation for animals taken from them by the Beni Amer.

39. It is regarded as important that affairs of this kind should be settled by inter-tribal agreement. A meeting of the parties held at Sabderat at the end of November proved abortive, but a second meeting at Tessenei in December resulted in a satisfactory agreement which provided for restitution of animals and compensation for injuries suffered by one of the Beni Amer. At the same time an arrangement was concluded for the appointment of agents within each tribe, whose duty it would be to assist owners of lost animals in recovering their property.

40. A friendly atmosphere prevailed and the good offices of the Commissario of Agordat contributed largely to the satisfactory solution of the difficulty.

French Equatorial Africa.

41. Cordial relations with the administration of French Equatorial Africa continue. The Acting Governor of Darfur Province met Chef de Bataillon Belle of Abeshe in June and discussed matters affecting the peace and security of the border, such as raids by the Gur'an Arabs, and measures for the control of relapsing fever. The small incidents which are inevitable on a frontier are habitually adjusted without difficulty thanks to the willing co-operation of the French administrative officers.

Belgian Congo.

42. The District Commissioner of the border district of Yei in Mongalla Province has been able to meet the officer administering the Belgian district of Faradje on several occasions. Their discussions, and the establishment of periodical sessions of a native court at Libogo, on the boundary, have proved of considerable benefit to both administrations. The satisfactory settlement of individual disputes and a more strict enforcement of sleeping sickness regulations on both sides of the border are a direct and encouraging result of these meetings.

Uganda.

43. The Provincial Commissioner of the Northern Province of Uganda met one of the district commissioners and the sleeping sickness officer of the Mongalla area on the frontier in November. Measures for combating the spread of sleeping sickness were discussed, and an agreement was reached for the adoption of certain regulations on both sides of the frontier.

Chapter III.—Public Security.

44. In January Zalingei District in Darfur Province was the scene of a fanatical outbreak, in which the leader was a religious imposter and his followers ignorant victims of superstition. The leader was of mixed Dagu and Fur descent, and was known to his followers as El Fiki-el-Muhagir ("the pilgrim fiki"). Declaring himself to be the Mahdi, he collected a following at Kebira, some 70 miles south-west of Zalingei, and started to march on Zalingei, giving out to his followers that the day of the Government was over and that he proposed to drive it out. The followers, for the most part, were Fur from the Masalit-Zalingei border, some Dagu from French territory, and a few Tama. The District Commissioner was warned through the loyalty and energetic action of a local chief, and the Camel Company of the Western Arab Corps was ordered

to Zalingei. The fiki, meanwhile, had marched to within 25 miles of Zalingei, collecting some 300 followers from the Fur villages on the way, but on hearing of the arrival of the Camel Company he retreated westwards to Jebel Sullu, where he met a patrol of ten police sent out from Geneina. The police opened fire, with the result that the fiki and two of his followers were killed, and a number wounded and captured. Subsequently, some eighty of the Fur followers were arrested, but many of the original gathering escaped, having deserted their leader as soon as he turned back.

45. Of the followers arrested, the majority were ignorant and ill-armed simpletons, who had joined the fiki as he passed through their villages. His original following had dispersed, doubtless realising the futility of their advance. Fifty-eight persons were sentenced to varying terms of imprisonment. The majority of these were released at once or before the end of the year. A few village headmen, whose responsibility in the matter could not be disregarded, are still in prison.

46. The movement was local, and its prompt suppression was a useful object lesson to the restless and credulous element in this remote district.

47. In the Upper Nile Province Gwek Wonding of the Lau Nuer, a witch-doctor, adopted a hostile attitude and openly defied Government for a considerable period. He had induced some sections of the tribe to follow his example. The efforts of the District Commissioner to get in touch with Gwek by peaceful methods were unavailing.

48. The probability of this disaffection spreading over a wider area demanded prompt action, and it was decided that military intervention was necessary. Gwek Wonding and his adherents were estimated originally at about 1,000 fighting men, of whom half were armed with rifles, and a company of infantry (Equatorial Corps) from Malakal, with a detachment of engineer troops from Khartum, in addition to forty mounted police of the Upper Nile Province, were detailed to deal with them.

49. It was decided that one flight, Royal Air Force, from No. 47 (B) Squadron, Khartum, with necessary ground personnel, should co-operate for reconnaissance and bombing duties.

50. The objects to be attained were :—

(*a.*) The removal of Gwek Wonding from the Lau Nuer.
(*b.*) The dispersal of his adherents and their return to the authority of their tribal chiefs.
(*c.*) The destruction of Gwek's pyramid at Dengkur.

51. This pyramid was a structure about 60 feet in height, built by Gwek's grandfather, a noted witch-doctor, who was buried there. It was regarded with awe by the local Nuer as a symbol of Gwek's magic powers.

52. Gwek's followers were reported, on the 13th December, to number some 4,000, and certain hostile bodies were in the

immediate neighbourhood of Nyerol, where the main Government force was established on the 15th December.

53. Reinforcements, consisting of No. 1. Company Cavalry and Mounted Infantry and half a Sudanese machine-gun battery, were despatched from Khartum to Malakal to act as a general reserve, both for purposes of this patrol and for a further patrol which had been rendered necessary in the Bahr-el-Ghazal Province near Shambe, where the Nuong Nuer had murdered Captain V. H. Fergusson on the 15th December.

54. On the 19th, 20th and 21st December, the Royal Air Force, having made several preliminary flights as a demonstration and a warning to Gwek and his followers, carried out a series of air attacks against Dengkurs and enemy concentrations within the hostile area.

55. On the 30th December the main force arrived at Dengkurs and the Nuer retired in a south and south-westerly direction.

(N.B.—1928. Organised resistance on the part of Gwek and his adherents subsequently broke down, and the pyramid was demolished by the engineer troops in February.)

56. On the 15th December, 1927, an unprovoked attack was made on the District Commissioner of the eastern district of the Bahr-el-Ghazal Province, Captain V. H. Fergusson, at Lake Jorr, 25 miles north of Shambe, by certain of the Garluark section of the Nuong Nuer. Captain Fergusson, a Greek merchant, and sixteen Dinka carriers were killed. Two companies of the Equatorial Corps, Sudan Defence Force, and a detachment engineer troops, were placed under orders to proceed to Shambe forthwith—with other units at Wau and Malakal in general reserve.

57. The objectives to be obtained by these operations were :—

(*a.*) To bring the enemy to action.
(*b.*) To capture Chief Garluark, who was alleged to be the instigator of the murder of Captain Fergusson, and all his section.
(*c.*) To destroy their villages.
(*d.*) To capture or destroy their cattle.

58. By the 2nd January, 1928, a general advance in three columns on Lake Jorr began. Small parties of the enemy who attacked the columns were driven off with loss and their cattle were destroyed.

59. The effect of these operations was to drive the retiring Nuer into the swampy country bordering the river, into which it was impossible for troops, however lightly equipped, to follow them.

60. The officer commanding the patrol took immediate steps to prevent the Nuer from escaping from this circumscribed swamp area, and two machines from the Royal Air Force flight, operating in the Upper Nile Province, made a reconnaissance.

61. Subsequent air action on the 24th and 25th January, with the necessary disposition of ground troops, caused the surrender by

the 3rd February of 900 men, 3,000 women and children, and 7,000 head of cattle—and, with the exception of the capture of the actual murderers of Captain Fergusson, whose names are known, the objects of the patrol had been attained. Chief Garluark had surrendered, with protestations of innocence at an early stage in the proceedings.

62. In connexion with these two patrols, there is a point, new to my experience, which has greatly impressed me. I refer to the difficulty, amounting in some cases to impossibility, of getting into touch with certain of the more backward tribes of the south, more particularly the primitive denizens of the marshy area which lies beyond the mouth of the Sobat River, on either side of the Zeraf, from Meshra-el-Rek to the Abyssinian border and southwards to the boundary of Mongalla Province.

63. So long as conditions are normal, the difficulty does not arise, but from time to time a state of tension comes into being—usually as the result of the machinations of a witch-doctor—and an *impasse* is apt to result. It need hardly be said that not a soul among these people can read or write, and there is no guarantee that a mesage transmitted verbally will be correctly delivered. Moreover, grave personal danger to the messenger is involved at such a time. I am exploring the possibility of finding some means of circumventing this difficulty, which obviously presents a serious hindrance to the peaceable adjustment of misunderstandings.

Police.

64. The commandant of the police training school, which was opened in 1926 for police officers, non-commissioned officers and men, reports that full courses of instruction have been carried out. Non-commissioned officers with the necessary qualifications for promotion to the rank of police officer are scarce, but this difficulty should, in course of time, disappear as the general standard of non-commissioned officers improves.

65. The police officers passed out of the training school at the beginning of 1927 have proved themselves of considerable value in the provinces.

66. The efficiency of the province police forces and the railway police has been well maintained. Their readiness in an emergency was demonstrated on several occasions, and their conduct and bearing generally are satisfactory.

67. The magazine rifle has now been issued to the police of four provinces, and two further provinces will be rearmed with the modern weapon in 1928.

Chapter IV.—Finance.

Financial Results for 1927.

Introduction.

68. The outstanding feature of the financial results for 1927 is the very large returns from the Gezira project. It so happened that a large yield per feddan coincided with good prices for cotton, and

the combination of these two favourable factors produced so large a return as to overshadow everything else. Excellent returns were, however, received from Kassala and from the royalty on gum. Sugar profits were again very satisfactory, and the receipts from the railways were high, as was to be expected with a large cotton crop to move. Customs revenue was also good. Otherwise, the bad rains of the autumn of 1926, following on a similarly bad season in 1925, had a depressing effect throughout the country, which the better rains of 1927 had not removed by the close of the year. Indeed, the receipts from ushur, animal tax and tribute fell short of the estimate, although the estimates for these taxes were advisedly put at a very low figure.

69. It is, of course, exceptionally fortunate that the returns from the Gezira have been good in the early years of the scheme, but it is essential that these early successes should not lead to a belief that a similar return is a normal factor in the country's financial position. A sound financial policy must be based upon the principle that in dealing with these sources of revenue, which are liable to violent fluctuations, the budget should be framed in terms of the normal average returns. Special steps in this direction are required when the fluctuations are large compared with the total revenue.

70. The two factors in the country's revenue which fall specially under this principle are the receipts from the Gezira and from the sugar monopoly. Arrangements have accordingly been made this year whereby there will be carried into the budget as revenue only so much of the receipts as may properly be regarded as normal. This new procedure is explained in further detail in a later paragraph.

71. The budget for 1927 has been closed (subject to audit) at the following figures :—

	£E.
Revenue	5,929,945
Expenditure	5,550,493
Surplus	379,452

This surplus is, as usual, passed to the General Reserve Fund (see below). From this fund are met the substantial demands for various necessary services which, though they are individually non-recurrent, are a regular and essential factor of the financial position. The demands which must be met in 1928 will more than absorb the 1927 budget surplus.

Revenue, 1927.

72. The results for 1927 are :—

	£E.
Budget estimate	5,660,000
Actual receipts credited to the budget ...	5,929,945
Surplus over budget estimate	269,945

This surplus over the budget estimate is accounted for as follows :—

	£E.	£E.
Gezira scheme	23,311	
Railway receipts	144,753	
Gum, sugar and customs ...	151,718	
Rents from Tokar and Kassala	9,746	
Timber and firewood	14,627	
Miscellaneous	27,401	
		371,556
Decreases—		
Ushur, animal tax, tribute and traders' licence and business profits tax	66,581	
Agriculture department ...	12,289	
Miscellaneous	22,741	
		101,611
		269,945

73. The following figures show how the results for 1927 compare with the two preceding years :—

	1925. £E.	1926. £E.	1927. £E.
Normal administrative revenue	2,289,609	2,153,764	2,159,848
Government commercial undertakings	105,124	135,014	117,933
Railways and steamers	1,909,650	2,115,999	2,180,753
Egyptian contribution	562,500	750,000	750,000
Gezira revenue ...	...	703,212	721,411
Totals ...	4,866,883	5,857,989	5,929,945

74. The actual receipts from the Gezira were £E. 1,255,934, but, as stated above, it has been decided not to credit these receipts in full to the revenue of the year, but to credit them to an equalisation fund, from which a conservative sum is credited each year to revenue. Similarly, the revenue from sugar, which is an important but uncertain factor in the budget, depending upon the price at which it is possible to purchase the necessary supplies, has this year been credited to the sugar reserve fund, to form an equalisation fund. The amount remaining in this fund, after crediting the budget with £E. 350,000 as revenue, is £E. 105,392, of which £E. 21,451 was derived from the sugar receipts in 1927. It is intended that in a bad year, when the actual receipts from the Gezira and from sugar fall below the budget estimates, these equalisation funds shall, if necessary, be drawn upon to balance the budget.

75. In addition to the exceptional receipts from the Gezira cotton, there were excellent crops at Kassala and Tokar. In view, however, of the new arrangements with regard to the growing of cotton in the Gash Delta, the extra receipts received from the Kassala Cotton Company have not been taken to revenue, but reinvested in the undertaking (see under Gash Board, later in this chapter).

76. The normal revenue (including Government commercial undertakings) can be analysed as follows :—

	Budget Estimates. 1927.	Actual. 1927.	Actual. 1926.
Provinces	873,450	879,908	844,168
Departments—			
Agriculture ...	104,000	91,711	109,260
Posts and Telegraphs ...	145,350	146,355	142,206
Customs ...	520,000	579,758	555,016
General central services ...	410,150	461,249	517,560
Rest	122,950	118,800	120,568
Total ...	2,175,900	2,277,781	2,288,778

77. It is interesting to note that although there were large variations from the estimates on different items in different provinces, the aggregate province revenue very closely approximated to the estimates, the excess being only about one-half per cent. The result was primarily due to substantial excesses in gum royalty and firewood. But for these two items the heavy reduction of taxation found necessary in the White Nile Province, the deficiency in Ushur, animal tax and tribute generally, and the failure to collect the estimated business profits tax would have resulted in a marked deficiency on the estimate of province revenue as a whole.

78. The failure of the Agriculture Department to realise its estimated revenue is attributable solely to the Department's ginning factories. Owing to the bad rains the amount of cotton coming forward for ginning was below the estimates. The deficiency on this item was partially off-set by additional revenue from the pumping schemes, but the net deficiency amounted to £E. 12,289. The increase in customs revenue is largely due to an increase in Government imports, particularly machinery.

79. Comparing the actual receipts in 1927 with the actual receipts in 1926, it will be seen that if the Gezira receipts are omitted, the revenue in 1927 exceeds the revenue in 1926 by £E. 53,757, which is the net result of an increased railway revenue of £E. 64,754, increased revenue from Government lands (mainly Kassala and Tokar) of £E. 38,669, and a reduction of £E. 49,666 on other items which closely approximates to the difference in the amount of sugar receipts credited to revenue in the two years. The

receipts from sugar were again exceptionally favourable and the budget revenue from this source has been fixed at £E. 350,000, or £E. 50,000 more than the estimate, but £E. 51,395 less than was credited to revenue in 1926. This accounts for the difference on General Central Services. The increased revenue from Kassala and Tokar is thus balanced by the reduction in other normal revenue. The falling off in "normal administrative revenue," as compared with 1924 and 1925 is a definitely serious sign. It is to be hoped that with the adequate rains of 1927 the revenue will in the current year regain the ground lost as a result of two bad seasons.

Expenditure, 1927.

80. The expenditure in 1927 has worked out as follows :—

	£E.
Budget estimate...	5,660,000
Amount actually charged to expenditure	5,550,493
Saving	109,507

In order to arrive at the true figure by which expenditure has been reduced below the budget estimate, there should be added to the figure of £E. 109,507 the sum of £E. 141,347, which represents an appropriation of £E. 135,000 from the net railway surplus to the special fund for betterment and capital improvements instituted in 1925, and other minor appropriations. This gross saving of £E. 250,854 is accounted for as follows :—

	£E.
Sudan Defence Force	38,379
Irrigation Department	37,514
Railways	87,150
Rest (net)	87,811
	250,854

81. As explained in last year's report, the item "rest" includes the provision in General Central Services of £E. 42,000 for supplementary credits and the balance of a provision of £E. 52,000 for "contingencies," which items are really in the nature of a hidden "surplus" to meet expenditure unforeseen when the budget was prepared. There was an excess of £E. 21,008 on the Medical Department's budget, largely accounted for by the heavy expenditure connected with the epidemic of relapsing fever in the west. There was also an excess of £E. 7,345 in the province budgets. This is due partly to the increase in the price of dura and forage, partly to additional expenditure on the cost of cutting firewood, which was balanced by increased revenue, and partly to increased expenditure on transport, particularly river transport. This is a novel factor, as past experience induces an expectation of a substantial economy on this part of the budget. There was also an excess of £E. 3,396 on education. The Agriculture Department underspent by £E. 12,947,

which was mainly due to less work at the ginning factories, which, as already pointed out, caused a deficiency in the anticipated revenue.

82. The net saving on the Sudan Defence Force budget is £E. 38,379. The most important item is a saving of £E. 13,000 on pay, owing to the force being below strength, but in general the expenditure appears to have been over-estimated in the budget.

83. The saving on the Irrigation Department is due partly to the maintenance work for which provision was made not having been completely carried out, and partly to the provision for interest payable on the capital cost of the scheme having been over-estimated in the budget.

Reserve Fund.

84. The net surplus of £E. 379,452 on the 1927 budget referred to above will, as usual, be passed to the Reserve Fund. After allowing for allocation of non-recurrent expenditure approved in 1927, the unallotted balance at the end of 1927 amounted to £E. 419,822, which, together with the estimated 1927 surplus and other minor receipts, including interest at 4 per cent. on the balance in the fund, gives a total estimated balance unallocated at the 1st January, 1928, of £E. 949,808. Against this, it has been necessary to approve normal non-recurrent expenditure during 1928 for development and other purposes, aggregating £E. 442,652. This leaves a balance of £E. 507,156. Against this balance further reservations amounting to £E. 60,000 have been made, so that the final unallocated balance may be put at £E. 447,156. It should perhaps be noted that votes of £E. 30,000 and £E. 50,000, representing the capital provision of the southern rain-grown cotton scheme and the allocation to the working cash balance reserve, respectively, do not represent actual expenditure. On the other hand, the balances of certain reserves, amounting to £E. 37,961, have been paid back to the fund and figure under minor receipts. Details of votes already approved, together with a full statement of the Reserve Fund position, are shown in Appendix II.

85. Amongst the 1928 votes is included a sum of £E. 10,000 for roads and water supply. A considerable proportion of this sum will be spent on the conservation of rain water in tanks and in surface wells for drinking purposes. This is in continuance of a policy which has been receiving increased attention in the last two or three years with the view of opening up new areas for grazing, gum-picking and cultivation. Special attention is being paid to the areas round the Gash Delta and in the vicinity of the Kassala–Gedaref–Makwar railway extension, and much of the work consists in reopening well centres and clearing out old tanks originally constructed in Meroitic days—2,000 years ago. It may be possible to restore to these districts the prosperity which they undoubtedly enjoyed in those far distant times.

Special Non-recurrent Expenditure.

86. The following table shows the relation of revenue to expenditure, taking into account the provision for so-called "non-

recurrent" expenditure, which, in accordance with the method adopted by the Sudan Government for such expenditure, is made each year from the General Reserve Fund :—

Item.	1923.	1924.	1925.	1926.	1927.
	£E.	£E.	£E.	£E.	£E.
Surplus of revenue over expenditure transferred to General Reserve Fund ...	373,663	845,583	491,213	375,601	379,452
Various receipts credited direct to General Reserve Fund	66,291	23,034	84,912	87,006	150,534
Total addition to General Reserve Fund	439,954	868,617	576,125	462,607	529,986
Allotments from General Reserve Fund for non-recurrent expenditure for the succeeding year less amounts since cancelled	227,942	509,600	679,881	579,536	502,652
Net *decrease* or *increase* in unallocated balances of General Reserve Fund ...	+ 212,012	+ 359,017	− 103,756	− 116,929	+ 27,334

87. It will be seen from the above that the surplus for 1927, in addition to the receipts credited direct to General Reserve Fund in respect of that year, together slightly exceed the capital expenditure requirements approved to date, but the margin is small and the unallocated balance in the fund only £E. 447,156. While, therefore, the present balance in the fund gives no cause for alarm, further capital expenditure must be financed from budget surpluses.

Taxation.

88. The policy of reducing direct taxation when possible, to which attention was drawn in last year's report, has continued in 1927. The following minor changes have been introduced :—

(*a.*) Reduction in the rates of animal tax in Kordofan Province and of animal tax and tribute in the Fung Province, and further reduction of the rates of animal tax in the Blue Nile and White Nile Provinces.

(*b.*) Reduction of the rates of poll tax in the Bahr-el-Ghazal and Mongalla Provinces.

(*c.*) The further transfers of services from the local provincial services budgets to the Central Government budget have been acompanied by further cancellation of local rates and other local dues.

(*d.*) In parts of Halfa Province a temporary percentage reduction in land tax of 1928 is being given pending a general reassessment of the tax on the lower basis which has been standardised in other riverain provinces.

Apart from reductions in the basis of assessment of taxation, arrears of taxation amounting to £E. 34,000, and sums due for dura loans, amounting to £E. 8,569, have been written off.

89. The failure of the rains of 1925 and 1926 unavoidably resulted in a certain amount of hardship—notably in the White Nile Province—and it was undesirable to press for payment of the taxes of those years in full despite reductions in the assessment. After the better rains of 1927 careful stock of the position was taken with a view to reducing the claims outstanding to correspond with the ability to pay. The amounts now written off should enable taxation and the balance of arrears to be paid in full by the end of 1928.

90. The question of the standard of taxation in the various provinces in the country is a matter which requires very careful watching. It is most important that changes in taxation should follow quickly on changes in the value of local produce or other alterations in economic conditions. This subject is being very carefully considered in the Finance Department, and various modifications are under discussion with Governors which will tend to equal up the incidence of taxation. There can be no doubt that, in a country like the Sudan, the essential feature of Government should be light taxation. If taxation is to be as light and as fairly distributed as possible, the actual standards aimed at must be very carefully borne in mind and all provincial taxation should be regularly reviewed from this point of view.

91. The table printed below gives the usual analysis of the main sources of revenue, excluding the Egyptian contribution. The receipts from the Gezira project have been included for the first time. The table is interesting as showing the relative importance of the different categories of revenue, and indicates that the steady tendency towards the reduction of the relative burden of direct taxes on natives to which attention was directed in last year's report still continues.

NORMAL REVENUE (including Receipts from Gezira Project, but excluding Egyptian Contribution).

(Figures in parentheses denote percentages.)

	1903.	1913.	1922.	1923.	1924.	1925.	1926.	1927.
	£E.	£E.	£E.	£E.	£E.	£E.	£E.	£E.
Direct taxes on natives	114,359 (24·7)	295,546 (18·9)	458,342 (13·2)	451,259 (12·0)	469,939 (10·9)	499,091 (11·6)	417,189 (8·2)	410,771 (7·9)
Royalties and receipts from irrigation project, &c. (other than Gezira project)	34,211 (7·4)	109,147 (7·0)	136,336 (3·8)	239,508 (6·4)	299,817 (7·0)	309,584 (7·2)	246,990 (4·8)	273,614 (5·3)
Receipts from Gezira project ...	...	...	...	...	...	...	703,212 (13·7)	721,411 (14·0)
Consumption duties, Customs and sugar monopoly	9,042 (1·9)	186,837 (11·9)	652,508 (18·6)	762,213 (20·2)	945,356 (22·0)	921,129 (21·4)	956,412 (18·8)	929,758 (17·9)
Gross revenue from Railways, Posts and Telegraphs, timber and firewood and Government commercial undertakings	238,335 (51·5)	818,829 (52·2)	1,925,251 (55·1)	2,008,772 (53·4)	2,204,869 (51·3)	2,215,309 (51·5)	2,440,134 (47·8)	2,495,888 (48·2)
Miscellaneous taxes on commercial transactions, court fees, &c.	66,658 (14·5)	157,993 (10·0)	326,158 (9·3)	304,381 (8·0)	378,875 (8·8)	359,270 (8·3)	344,052 (6·7)	348,503 (6·7)
Totals ...	462,605	1,568,352	3,498,595	3,766,133	4,298,856	4,304,383	5,107,989	5,179,945

General Review of the Financial Situation.

92. In last year's report the general development in the financial position of the Government over the years 1922–26 was reviewed at some length, and it is unnecessary to go over the same ground again. All the important points in the position are brought out in the Table I of Appendix I, which has been remodelled, and now brings out clearly the distinction which was emphasised in last year's review between normal revenue and expenditure and expenditure on commercial undertakings, such as the railways, the Gezira and other agricultural schemes. This distinction is of importance because in the latter an increase of expenditure probably means growing business, and should, therefore, be balanced by increased receipts, whereas, in the former, increased expenditure means expenditure on non-revenue-producing services, such as the political administration, education, medicine and defence, which must normally be balanced by increased taxation.

93. It will be observed that, whereas the normal revenue in 1927 has practically remained stationary as compared with 1926, it is below the 1925 figure. On the other hand, the normal expenditure is increasing, and definitely exceeds the normal revenue. As already indicated, the year 1927 was a bad year owing to the bad rains in the two preceding years, but it is clear that until it is demonstrated that in a normal year the normal revenue is definitely established at a higher level than the average over the past four years, any material expansion of normal administrative expenditure would not be justified. While, however, normal revenue has been disappointing, there has been a satisfactory increase in the Government's reserve position.

94. On the other hand, during the year, ascertained losses on imported dura and in connexion with the development of rain-grown cotton (see below), amounting to £E. 52,252 and £E. 36,950 respectively, have been written off against the reserves which had been set aside for the purpose out of revenue in 1926 and previous years. In addition, expenditure amounting to £E. 236,636 has been authorised during 1927 against the special Gezira Reserve. Of this, £E. 150,000 is for development of a new area in the Gezira for the Kassala Cotton Company (see later in this chapter). A further £E. 48,876 has since been sanctioned against this reserve in respect of 1928.

Budget Estimates for 1927 *and* 1928.

General.

95. The actual figures are summarised as follows :—

	Budget Estimates 1927. £E.	Financial Results 1927. £E.	Budget Estimates 1928. £E.
Revenue ...	5,660,000	5,929,945	5,978,000
Expenditure ...	5,660,000	5,550,493	5,978,000

These figures require special explanation, particularly as regards expenditure.

Revenue.

96. The estimated revenue for 1928 is put at £E. 5,978,000. made up as follows :—

	1928 Budget. £E.	1927 Actual. £E.
Normal revenue (including Government commercial undertakings)	2,339,400	2,277,781
Railway receipts	2,096,600	2,180,753
Egyptian contribution	750,000	750,000
Gezira receipts	792,000	721,411
	5,978,000	5,929,945

97. An analysis of the estimate of normal revenue for 1928 will show that, excluding General Central Services, the total revenue, including an item the provision for which has been transferred from provinces to General Central Services, is estimated at £E. 20,768 more than was actually realised in 1927. The estimated increase from ushur and animal tax, following the good rains, has been counterbalanced by reductions in other items, such as gum royalty, the estimate for which is £E. 58,000 below the 1927 figure. The receipts from gum were above the average in 1927, whereas prudence requires that the budget estimates should be based upon the expectation of an average year. The increase in the Gezira revenue is due to the extension of the area under cultivation. The basis of the estimate is a net yield of £E. 20 per acre (as compared with £stg. 20 in 1927), of which the Government share is 37½ per cent.

Expenditure.

98. The total estimated expenditure for 1928 shows an increase of £E. 318,000 over the 1927 budget figure, and £E. 427,507 over the actual expenditure for 1927, but if account is taken of the sum of £E. 141,347 included as additional appropriations in the Railways and Steamers Department expenditure for 1927, the increase over the actual 1927 expenditure becomes £E. 568,854.

99. For various reasons, however, a comparison between the budgets of 1927 and 1928 is more informative than a comparison between the 1928 budget and the actual expenditure in the preceding

year. The following table accordingly gives an analysis of the 1928 budget under its main headings, as compared with that for 1927 :—

	1928 Budget. £E.	1927 Budget. £E.	Increase or Decrease. £E.
Province expenditure ...	906,038	853,681	+ 52,357
Departments' expenditure	1,312,377	1,203,195	+ 109,182
Pensions	125,000	120,000	+ 5,000
Passage allowance and travelling facilities ...	78,847	70,107	+ 8,740
Supplementary credits and miscellaneous ...	190,362	152,293	+ 38,069
Total normal administrative services (including Government commercial undertakings)	2,612,624	2,399,276	+213,348
Railways	1,793,753	1,697,939	+ 95,814
Irrigation Department ...	771,300	758,925	+ 12,375
Military expenditure ...	800,323	803,860	− 3,537
	5,978,000	5,660,000	+318,000

The increases or decreases under the different main headings may briefly be explained as follows :—

Normal Administrative Expenditure.

100. The increase in the expenditure on normal administrative services in 1928 over 1927 appears as £E. 213,348, but of this a sum of £E. 79,234 is due to special transfers to the Central Government budget of amounts which do not represent new expenditure or to the growth in certain commercial undertakings which form part of the Departments of Agriculture and Forests and Public Works (£E. 16,106), and which should be more than balanced by increased receipts. This leaves a balance of £E. 134,114, due to the real growth in normal administrative expenditure. Of this, £E. 5,000 represents the increase in pension payments and about £E. 20,000 the net automatic increase in salaries in accordance with the regulations. Two items of a special nature have been included in the General Central Services budget, viz., £E. 15,000 to cover possible expenditure in connexion with the extension of native administration and £E. 7,000 to cover the cost of increases of pay for various higher appointments and for the appointment of an Agricultural Adviser for the Gezira. The development of native administration is being actively pursued and it is hoped that, although the immediate result is apparently a serious increase of expenditure, it will, in the long run, prove to be an economy. If all these items are eliminated the measure of the normal increase will be reduced to £E. 87,114, of which about half is due to the general expansion of the Education and Medical Services

and to the inclusion for the first time of a provision of £E. 6,000 in the Posts and Telegraphs budget for the renewal of telegraph and telephone lines, hitherto provided by vote from the Reserve Fund.

101. In view of the steady growth of normal administrative expenditure, particularly in respect of education and medicine, it has been decided to undertake this year a comprehensive review of the whole position as it has developed since the last review by a special economy committee in 1922.

Railways and Steamers.

102. Of the increase of £E. 95,814 in the railway expenditure, £E. 50,000 is due to the inclusion for the first time in the railway budget of an item for capital improvements which was previously allocated from excess receipts, £E. 14,598 to the increase of the provisions for pensions and interest and £E. 27,828 for increased expenditure on staff, of which nearly half represents increases of pay to existing unclassified staff (*i.e.*, the operative staff).

Irrigation Department.

103. The increase of £E. 12,375 is mainly due to the increased charges for maintenance and rents necessitated by the extension of the area brought under cultivation.

Sudan Defence Force.

104. The estimate for 1928 shows a slight decrease only on the 1927 estimate. This is disappointing, as it shows that it has not been possible to carry out the original programme for the progressive reduction of the force.

New Projects and Loans.

New Concession to the Kassala Cotton Company.

105. During the year negotiations took place between the Sudan Government and the Kassala Cotton Company with a view to the substitution of a concession to the company in the Gezira for the original concession in the Gash Delta. The negotiations were brought to a successful conclusion in November, when heads of agreement were signed. The principal provisions are as follows :—

(1.) The company surrenders to the Government as from the 30th June, 1927, all its rights and assets in the Gash Delta.

(2.) The Government grants to the company a concession in respect of an area of 45,000 feddans in the Gezira upon the same general conditions as the Sudan Plantations Syndicate holds its concession in the Gezira, the Government being under the obligation to carry out the necessary irrigation as in the rest of the Gezira.

(3.) The Government agrees to refund to the company the company's contribution of £stg. 306,076 to the cost of the Kassala Railway and its capital expenditure (£stg. 239,108) in the Gash Delta.

(4.) The Government will pay £stg. 329,969 of this sum by means of forty-six half-yearly payments of £7,173 5*s*., terminating on the 30th June, 1950. The balance will be discharged out of the company's share of the net proceeds of the crop in the new concession area.

(5.) The net proceeds of the cotton crop in the new concession area will be divided between the parties on one of the two following alternatives, whichever gives the company the smaller amount, viz. :—

(*a*.) Tenants	...	40 per cent.
Company	...	30 per cent.
Government	...	30 per cent.

or

(*b*.) Tenants	...	40 per cent.
Company	...	15 per cent., plus £39,878 10*s*.
Government	...	The balance.

106. This extension of area in the Gezira will involve the Government in capital expenditure which is estimated at £E. 200,000. This sum is being provided by allocations of £E. 150,000 and £E. 50,000 from the Gezira Reserve Fund and the General Reserve Fund respectively. While, on the one hand, this extension of the irrigated area in the Gezira carries a step further the policy of spreading as much as possible the heavy overhead charges, of which the most important is the cost of the Sennar Dam itself, it was hoped to consolidate the development associated with the revised agreement with the Sudan Plantations Syndicate, to which reference was made in last year's report before undertaking any further commitments. In view, however, of the special circumstances, the Government felt justified in speeding up the development to the extent involved in order to provide a satisfactory solution to the difficult problem which had arisen in the Gash Delta.

Gash Board.

107. The Kassala Cotton Company's concession in the Gash was only actually taken over by the Government on the 31st December, 1927, although all expenditure on account of the 1927–28 crop has been on Government account. Arrangements were made with the company to carry on the local management until the Government could arrange to take it over in the spring.

108. In order to maintain the commercial character of the undertaking, it will be managed by a special board, to be known as

the "Gash Board," on a strictly commercial basis. The board will be furnished with capital from Sudan Government funds. The initial capital required has been fixed at £E. 70,000, of which £E. 40,193 has been provided by allocating the surplus receipts due to the Government from the 1926–27 crop over and above the budget estimates of £E. 30,000, and the balance from the special Kassala Reserve constituted from surplus revenue in 1925.

109. It is difficult to estimate what will be the financial result to the Government of the resumption of the Gash area. In 1925–26, with a good yield and good prices, but with a poor flood, the total value of the crop was only about £E. 135,000. With less satisfactory yield and price, and with an even worse flood, which is well within the bounds of possibility, the net proceeds might easily fall as low as £E. 90,000. On the other hand, in the present year, with some 25,000 acres of effective cotton, and the probability of a yield of over 2 kantars per feddan, a crop value of £E. 250,000 is assured. It is estimated that in 1928 the working expenses (including the annuity to the Kassala Cotton Company) will amount to about £E. 41,000, which will mean a net profit of about £E. 29,000, in addition to the share which would have fallen to the Government under the old agreement with the company. On the other hand, with a net yield of only £E. 90,000, the loss would be almost as great as the profit in a good year. In an average year, even after allowing for interest on the additional capital expenditure which will be necessary, the additional share in the net proceeds of the crop should just about balance the expenses of running the undertaking.

Railway Extensions.

110. The extension of the Kassala Railway to Gedaref, which was decided upon during 1926, and had reached the River Atbara in January 1927, finally reached Gedaref in February 1928. After full consideration it has now been decided to complete the scheme originally proposed and to continue the line to Makwar, thus making a complete circle and virtually doubling the line from the Gezira to Haiya. The advantage of this from the point of view of handling the heavy cotton and other traffic to Port Sudan is obvious. A start on the new extensions has been made from the Makwar end, but the main part of the work will be carried out after the rains in 1928. By carefully eliminating all possible optional expenditure, a considerable economy has been secured on the original estimate for the further extension.

Loan Transactions.

111. It has not proved necessary to raise the balance of the Sudan Government Guaranteed Loan. Expenditure on the works chargeable to the loan is being temporarily financed from the Sudan Government's own resources.

Government Commercial Undertakings and Interests.

Railways and Steamers.

112. The gross receipts at £E. 2,180,753 again beat all previous records, being £E. 64,754 more than in 1926. The following table shows the estimated receipts from cotton, grain and sugar :—

	1926. £E.	1927. £E.	Increase or Decrease. £E.
Cotton ...	192,600	216,000	+23,400
Cotton-seed ...	52,700	66,000	+13,300
Grain ...	183,000	170,000	−13,000
Sugar ...	167,000	151,000	−16,000
Total ...	595,300	603,000	+ 7,700

113. It is not necessary to deal here in detail with the working results, but mention should be made of the fact that in 1928 definite provision has been included in the budget for an allocation to the special fund, instituted in 1925, for financing normal capital improvements and betterment. This step is important, as it recognises the maintenance of this fund at a reasonable figure as a normal charge against revenue and not, as hitherto, a fund which should be built up by appropriations from surplus revenue in years when the receipts exceed the normal estimate. Allocations from surplus revenue will still continue, but it is now considered possible, in accordance with sound commercial practice, to recognise that a certain amount of expenditure of this kind is a normally recurrent need, and should, therefore, be provided for as part of the annual expenditure for which provision is made in the budget.

114. The winter of 1927–28 has been remarkable for a material increase in the tourist traffic, particularly in the steamer service south of Khartum. Not only have the numbers increased, but the type of tourist has changed. A higher standard of comfort is expected. The measures which can be taken to provide for this new demand are receiving careful consideration.

Port Sudan.

115. The construction of the two new coaling berths and the erection of the coal transporters, which it was expected would be completed in the autumn of 1927, were unexpectedly delayed, but they are now completed. Work has, in addition, been commenced on a special berth at the South Town for the accommodation of oil tank steamers. This berth is being constructed in connexion with the installation of storage tanks for petroleum products by the Asiatic Petroleum Company.

116. The doubling of the pipe-line from Khor Arbaat, which supplies the town with water, has been completed. The total cost of the scheme has proved to be £E. 110,910. The scheme has been put upon a commercial basis, and allowing for interest and amortisation is estimated to show a small loss in 1928. There seems little

doubt, however, that in the end the undertaking will pay its way, as soon as the arrangements for the supply of water to shipping are brought into line with up-to-date practice and the shipping companies realise the advantages which this supply will offer to them. The local demand should also grow as the development of the port continues.

Gezira Irrigation Project: Capital Position.

117. Capital expenditure on the original project (*i.e.*, the dam and the canalisation of 300,000 acres) is still proceeding. The estimate of £E. 11,224,798 has not been definitely revised, but it seems probable that some economy may be realised on certain items for which provision was included in the estimate. On the other hand, it has been necessary to approve expenditure estimated at £E. 140,000 on the provision of masonry aprons down-stream a small section of the dam. Of this expenditure £E. 80,000 has provisionally been met by a grant from the General Reserve Fund. It now appears almost certain that it will be necessary to build aprons across the whole width of the dam. No definite plans have yet been prepared, but the additional expenditure is expected to amount to about £E. 300,000, of which it is hoped that £E. 100,000 will be met from savings of the estimate for the original scheme. The total capital cost will then be increased by £E. 280,000 in all.

118. Under the revised agreement with the Sudan Plantations Syndicate the concession area is being increased to 450,000 acres. It was originally agreed that this additional area should be provided to the north of the existing area, but it was subsequently represented to the Government that the soil in the northern area was not wholly satisfactory. It was accordingly arranged to substitute areas in the west and certain other minor areas for 94,300 acres in the north. Work on the canalisation of this additional concession area is proceeding. The total capital cost to the Government is estimated at £E. 1,702,000. Part of the cost of this extension will be met by the repayment by the Syndicate of the £stg. 400,000 advanced to it from the original Gezira Loan, part from the unallotted balance of that loan, part from the Gedaref Railway and Equipment Company Loan (see Appendix III), and part from the Government's own resources.

Revenue and Expenditure, 1927.

119. The results of the cultivating season 1926–27 are as follows:—

Area under cotton... ...	... (acres)	100,058
Total lint produced ...	(kantars)	473,033
Number of bales (430 lbs.) ...	...	112,764
Yield in kantars of lint per acre ...	...	4·728
Cotton-seed	... (tons)	44,465
Total net proceeds of cotton and cotton-seed	...(£stg.)	3,429,680

120. The net proceeds are divisible between the cultivators, the syndicate and the Government. That part of the area which was formerly watered by the Wad-el-Nau pumps is not included in full in the Government's share until 1927–28, but is subject to a special arrangement. The net result for the Government works out as follows :—

	£stg.
Total net price	3,429,680
Deduct—	
Wad-el-Nau proportion	284,440
	3,145,240
37½ per cent. share due to Government	1,179,464

In addition, the Government share in the Wad-el-Nau crop was £stg. 31,775, making the total receivable £stg. 1,211,239 (£E. 1,180,958). These figures are subject to adjustment in respect of interest.

121. The total sum receivable from the syndicate in 1927 is £E. 1,255,934, of which £E. 58,475 is in respect of the 1925–26 season. As stated in an earlier paragraph, these receipts have been paid to the newly constituted Equalisation Fund, from which has been paid to the budget a sum equal to the Irrigation Department's expenditure (including interest on capital and rent of lands). The amount remaining in the fund as at the 1st January, 1928, is accordingly £E. 537,430.

122. While, therefore, the Government's financial gain from the Gezira project was very large in 1927, even when allowance is made for general expenditure in connexion with the project (*e.g.*, agricultural research work, additional political officials, medical and veterinary staff), it must be realised that the 1927 results were quite exceptional. It is for this reason that it is essential to set aside any surplus receipts in good years in order to provide a fund to make good the excess of expenditure over revenue in years which are below the average.

Kassala Cotton.

123. The Gash flood for the 1926–27 season was a record one. The area under effective cotton was 26,100 acres, as compared with 10,000 acres in the previous season. The total yield was over 50,000 kantars of lint cotton, or more than twice as much as was obtained in 1925–26. The Government's net share of this crop, after allowing for the payment due to the Eritrean Government, amounted to £E. 70,173. As explained in a previous paragraph, £E. 40,173 of this has been utilised to provide capital for developing and manåging the area directly under the Government, and £E. 33,840 left in the Kassala Reserve Fund.

Tokar Cotton.

124. The 1926–27 flood was better than in the previous years, though still below the average. The Government's profit, after deducting the value of seed issued, was £E. 36,246.

Rain-Grown Cotton.

125. There has been some improvement in the results achieved in 1927 in the efforts to establish the growing of American cotton as a rain-crop in the southern provinces. In 1925–26 the bad rains, shortage of grain, and consequent high price of dura and low cotton prices, combined to give this industry a disappointing set-back, and the outlook for 1926–27 was bad. The actual results, however, have turned out better than was anticipated. The total production in the four southern provinces (in which the Government buys and markets the cotton grown by the cultivators), was 60,170 small kantars, as against 40,567 in 1925–26. Crop prospects in 1927–28 are slightly better, and there has been a substantial improvement in price.

126. In the northern provinces, where the Government's intervention is limited to the supply of seed and the provision of ginning factories, the amount of cotton grown in 1926–27 was disappointing. It was hoped that, with the better rains, there would be a substantial revival of cotton growing, but apparently the fear of food shortage still persisted. It is hoped, however, that if there are good rains again in 1928, cotton will recover its popularity as a crop. The total production of cotton in 1926–27 in these northern provinces was 4,197 small kantars only, as compared with 64,416 in 1925–26 and 88,702 in 1924–25.

127. From a financial point of view, the 1926–27 position has worked out as follows :—

	£E.
Southern provinces—	
Loss on 1926–27 crop	12,607
Net loss on previous crops	13,764
Northern provinces—	
Loss on seed issues...	14,432
Total loss	40,803

128. It is expected that in 1927–28 this enterprise, the chief value of which is the indirect benefits resulting from providing these primitive people in the southern provinces with some chance of occupation and economic production, will have passed from the experimental stage and will definitely pay its way.

129. The losses incurred to date have accordingly been written off against the reserves set aside for that purpose in previous years, the balance of these reserves being paid back to the General Reserve Fund. Further, arrangements have been made to finance the undertaking on commercial lines as if it were a commercial company. To this end a fixed capital of £E. 30,000 has been provided from the General Reserve Fund, and working capital necessary to finance the marketing of the cotton, where that is

undertaken by the Government, made available from other funds at the disposal of the Government. In the early years any profits earned will be carried forward as a reserve against future losses.

Tokar Water Supply.

130. After several trial bores had been sunk in the neighbourhood of Tokar a water of reasonably good quality was found at Krimbit, at a distance of about 12 miles from Tokar, to which place the water is carried by pipe-line. In a place such as Tokar a good and abundant water supply is of the highest value. The total cost of the project has worked out at £E. 28,240. The scheme has been put on a commercial basis and a small profit is expected in 1928.

Agricultural Research.

131. An adequate programme of research is an essential part of large commercial enterprise, and the importance of this work in connexion with the Sudan Government's cotton interests is fully recognised. Work has continued during the year both at the Gezira research farm near Wad Medani and at the plant breeding establishment at Shambat. Important work has been done in connexion with blackarm, an exceedingly dangerous cotton pest, and in connexion with the development of better strains of both sakellarides and American cotton.

Sudan Power and Light Company, Ltd.

132. The bridge over the White Nile from Khartum to Omdurman and the electrification of the tramway system was not completed according to specification until after the end of 1927, and accordingly the "construction period," during which, under the agreement, the Government receives a fixed rental at the rate of £stg. 27,500, continues until the 30th June, 1928. After that date the Government's receipts will depend upon the profits made from the undertaking. The company estimated that the share for half a year would be £E. 25,423, which, with half the fixed rent, makes £E. 38,829. On the other hand, interest and sinking fund payments have to be met by the Government from the receipts, so that the net receipts will be only £E. 17,668, as opposed to £E. 21,800 in 1927.

Imported Dura.

133. In order to safeguard the country against the unprecedented shortages of grain crops in 1925–26 and 1926–27, a reserve of 11,260 tons of grain in all was imported by Government at a cost of £E. 136,545. Grain has been issued from this reserve where required, £E. 13,440 worth having been issued in the form of loans. To meet possible losses on the imported dura, reserves amounting to £E. 73,568 were set up in previous years. In view of the greatly

improved position following the rains in 1927, it has been decided to close the imported grain account, the remaining stock of grain having been disposed of and the final loss written off against the reserves. The total loss involved has amounted to £E. 40,351, to which must be added the sum of £E. 11,900 on account of loans outstanding, which, as a precautionary measure, has also been written off, although, in order to avoid pauperising the population, recovery is not being waived except after careful review of the circumstances of each case.

Chapter V.—Economics and Trade.

External Trade.

134. External trade, excluding transit trade and specie, has increased in value from £E. 10,764,906 in 1926 to £E. 11,384,733 in 1927, an increase of £E. 619,827, or 5·76 per cent.

135. The total value of imports increased by £E. 580,913, or 10·42 per cent., but this increase is mainly attributable to an increase of £E. 524,671 in the value of Government imports, which consisted largely of materials and equipment for new railways and other capital works. As in 1926, imported grain accounts for a considerable share of the imports, viz., £E. 212,053 in 1926 and £E. 228,219, in 1927. The increase in the value of imports by the public amounted to only 1·49 per cent.

136. The increase of 1·64 per cent. in the value of exports was due to the increased export of cotton and cotton-seed from the Gezira irrigation scheme. All other exports of importance, other than those of hides, skins and dates, show a decrease in value.

137. The following table shows the value of external trade during the last four years and also, for comparison, the value of trade in 1913 :—

(In thousands £E.)

——	1913.	1924.	1925.	1926.	1927.	Increase per cent. 1927 over 1926.	Increase per cent. 1927 over 1913.
Imports (public) ...	1,605	3,655	3,827	3,779	3,835	1·49	138·94
Imports (Government)	504	1,820	1,611	1,796	2,320	29·22	360·32
Exports	1,185	3,542	3,801	4,876	4,956	1·64	318·23
						Decrease.	
Re-exports ...	94	288	367	314	273	13·03	190·43
Totals ...	3,388	9,305	9,606	10,765	11,384	5·76	236·01

138. In the above table, sugar, which is imported by Government for re-sale to the public, is included among Government

imports. If sugar is treated as a public import, the comparison would be as follows :—

(In thousands £E.)

—	1913.	1924.	1925.	1926.	1927.	Increase per cent. 1927 over 1926.	Increase per cent. 1927 over 1913.
Imports (public) ...	1,605	4,056	4,208	4,271	4,229	Decrease. 0·98	163·49
Imports (Government)	504	1,419	1,230	1,304	1,926	Increase. 47·7	282·14

Ninety-six per cent. of the export and 74·1 per cent. of the import trade was viâ the Red Sea route.

139. The following table shows the balance of trade in 1926 and 1927 :—

Balance of Trade (exclusive of transit goods and specie).

(In thousands £E.)

	1926.	1927.
Public imports	3,779	3,835
Less public re-exports	248	225
Net public imports	3,531	3,610
Exports	4,876	4,956
Excess of exports over net public imports	1,345	1,346
Government exports, less re-exports ...	1,729	2,272
Total excess of imports over exports ...	384	926

The balance of public trade, exclusive of transit goods and specie, but counting sugar as a public import, was as follows :—

(In thousands £E.)

	1926.	1927.
Imports	4,271	4,229
Exports and re-exports	5,124	5,181
Balance of exports and re-exports over imports	853	952

Imports.

140. The value of imports by the public increased as follows :—

	Increase in value. £E.	Increase per cent.
Machinery	25,156	30·19
Soap	25,275	56·36
Tobacco	19,801	8·03
Dura	16,166	7·62
Metals and metalware	13,990	9·02
Timber	13,618	31·77
Cotton piece-goods	13,451	1·64
Motor cars, &c.	10,088	11·28

The chief decreases in public imports were as follows :—

	Decrease in value. £E.	Decrease per cent.
Tea	53,484	24·75
Coffee	31,380	12·91
Sacks	43,834	26·48
Stone, earthenware and glassware	30,890	41·44
Rice	3,885	10·73
Spices	2,619	11·57

The principal increases in Government imports were :—

	Increase in value. £E.	Increase per cent.
Metals and metalware	457,158	126·90
Machinery	78,801	27·07
Motor cars, cycles and accessories, including tyres	36,078	130·00
Timber and sleepers	32,422	86·00
Coal, coke and oil fuel	25,355	19·73

Exports.

141. The value of exports increased as follows :—

	Increase in value. £E.	Increase per cent.
Cotton	355,444	12·54
Cotton-seed	102,901	40·12
Hides	31,901	107·45
Dates	4,409	9·26
Senna	5,530	38·46

The value of exports decreased as follows :—

	Decrease in value. £E.	Decrease per cent.
Cattle	28,366	29·06
Sheep and goats	10,058	36·56
Sesame	84,619	32·82
Ground-nuts	91,625	80·00
Gum	163,311	19·34
Skins	3,057	3·16

142. In 1927 Great Britain supplied 40·3 per cent. of the Sudan's imports, as compared with 34·9 per cent. in 1926. The value was £E. 2,477,770, as compared with £E. 1,944,785 in 1926, an increase of £E. 532,985, or 27·4 per cent. The increase is mainly due to imports of metals and machinery.

143. Exports to Great Britain were valued at £E. 3,764,873, or 75·9 per cent. of the total exports, as compared with £E. 3,434,210, or 70·4 per cent., in 1926. The increase in 1927 over 1926 was £E. 330,663, or 9·6 per cent., due to the increased export of ginned cotton and cotton-seed to England.

144. Goods of Egyptian origin were imported to the value of £E 1,116,606, as compared with £E. 809,500 in 1926, an increase of £E. 307,106, or 37·9 per cent. Egypt's share of Sudan imports was 18·1 per cent. in 1927, as compared with 14·5 per cent. in 1926. Large quantities of dura were imported from Egypt.

145. Exports to Egypt in 1927 amounted to £E. 428,183, a decrease of £E. 157,014, or 26·8 per cent. Egypt took 8·7 per cent. of the total exports from the Sudan in 1927 and 12 per cent. in 1926. The decrease in exports to Egypt is principally due to reductions in exports of sesame, cattle, ground-nuts, sheep and goats.

146. Trade with Abyssinia decreased from £E. 369,622 in 1926 to £E. 270,312 in 1927, a decrease of £E. 99,350. This is due to decreased imports of coffee, decreased re-exports of cotton piece-goods and a decrease in cotton piece-goods forwarded in transit to Abyssinia. Trade viâ Gambeila, the Sudan trading station in South-West Abyssinia, was valued at £E. 193,027, as compared with £E. 286,325 in 1926. Smaller imports of coffee were the principal cause of the decrease of £E. 93,298. The value of coffee imported viâ Gambeila in 1927 was £E. 123,607, as compared with £E. 173,174 in 1926.

147. New customs arrangements at Abyssinian frontier stations were proposed by the Abyssinian Government and considered. Under these each Government would collect its own customs duties at all stations. At present, duties are collected by the Sudan Government on behalf of both Governments on traffic viâ Gambeila and certain other stations.

148. There has been an increase in trade with Uganda and the Belgian Congo amounting to £E. 14,379, viz., from £E. 26,760 in 1926 to £E. 41,139 in 1927. The increase is due to increased re-exports of motor spirit and motor cars to the Belgian Congo. The value of trade with Eritrea decreased from £E. 54,487 in 1926

to £E. 31,059 in 1927, a reduction of £E. 23,428, due principally to smaller imports of dura from Eritrea.

149. The following table classifies the principal exports, showing the proportion of each to the total value of exports in 1927. The extent to which the country has now come to depend on the cotton crop needs no emphasis. With a return to normal rainfall other cultivated products will recover lost ground, and it is obviously desirable to increase their output and add to their number. The most promising new product is coffee from the Southern Sudan, but this will take several years to develop and expert guidance will be necessary before any extensive operations can be carried out :—

	Value exported in 1927. £E.	Percentage of total exports in 1927.
Cotton (ginned) and cotton-seed	3,549,704	71·6
Gum arabic	680,887	13·7
Cattle, sheep, hides and skins...	241,976	4·9
Sesame	173,247	3·5
Ground-nuts	23,033	0·5
Other exports	287,243	5·8
Totals	4,956,090	100·0

Cotton.

150. Exports of cotton and cotton-seed, Egyptian and American types, in 1927, were as follows :—

	Cotton.		Cotton-seed.		Total value of cotton and cotton-seed.
	Quantity.	Value.	Quantity.	Value.	
	Tons.	£ E.	Tons.	£ E.	£ E.
Egyptian, ginned ...	25,894	2,995,945	51,447	329,630	3,325,575
American, ginned ...	2,997	194,344	6,400	29,785	224,129
Cotton, scarto ...	265	9,962	...	...	9,962
Cotton, unginned ...	39	525	...	...	525
Totals	29,195	3,200,776	57,847	359,415	3,560,191

The total exports of cotton and cotton-seed during the last four years have been as follows :—

Year.	Cotton.*		Cotton-seed.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£ E.	Tons.	£ E.
1924	8,364	1,460,991	18,003	156,669
1925	7,752	1,636,784	13,939	119,269
1926	22,195	2,834,845	46,670	256,514
1927	28,891	3,190,289	57,847	359,415

* Excludes unginned cotton and cotton scarto.

Gum Arabic.

151. Notwithstanding low prices—£13 8*s.* 1*d.* per ton—at El Obeid, the principal market, there has been little falling off in the export of gum arabic. The following table gives the actual figures :—

	Average export per annum in tons.
1909–13	15,192
1914–18	14,086
1919–22	13,298
1923 (actual export)	22,425
1924 (actual export)	20,363
1925 (actual export)	18,956
1926 (actual export)	22,744
1927 (actual export)	21,239

The value of the export in 1927 was £E. 680,887, as compared with £E. 844,198 in 1926.

152. The chief purchasers in 1927 were : Great Britain, 4,382 tons; United States of America, 4,358 tons; Germany, 3,640 tons; France, 2,258 tons; Belgium, 1,680 tons; Italy, 1,479 tons; Holland, 783 tons; Australia, 597 tons; Japan, 539 tons; Spain, 498 tons; Sweden, 219 tons; Egypt, 129 tons; India, 70 tons.

153. Prospects for the 1927–28 season are good as regards quantity, though there are no present signs of an improvement in price. Any forecast, however, of the course of the gum trade is particularly hazardous because the use of this commodity is confined to semi-luxury trades, the yield varies greatly according to weather conditions, and its collection entails considerable hardship in desolate and generally waterless country.

Livestock Trade.

154. Export of livestock is entirely in native hands in the Sudan and all the exports go to Egypt. There has been no material change in conditions during the last twelve months. Demand has been poor and exports have been as follows :—

	1925.	1926.	1927.
Cattle ...	18,735	16,560	13,808
Sheep ...	29,917	18,918	14,161

Of the cattle exported, 7,656 were shipped viâ Port Sudan to Alexandria, the remainder by the Nile route to Cairo.

155. There have been indications recently of an improved demand both for cattle and for camels. The latter are imported into Upper Egypt for slaughter.

156. During the last two years there has been a brisk demand for sheepskins from the Sudan, mainly for America. The hides trade has also increased.

157. There is a considerable improvement in the home market for both cattle and sheep. The internal trade in animals is very large and of greater importance than the export trade.

158. The very noticeable increase in the number of livestock kept by tenants on the Gezira scheme is a satisfactory feature and should have a beneficial effect on the soil.

159. The following table gives the numbers of cattle and sheep slaughtered during the last two years in ten principal towns :—

	Cattle.	Sheep.
1926	21,033	180,520
1927	21,627	167,923

Economic Situation.

160. By April 1927 the country had reached a crisis when the cumulative effects of two consecutive bad harvests had reached their maximum, and the whole of the Northern and Central Sudan was anxiously awaiting the rains of the summer of 1927. There were still several months to run before any relief to a tense situation could be expected, and the fear of a third disaster to the food crops was giving rise to forebodings of widespread distress and a general feeling of doubt and despondency. The trading class was also in a state of depression, trade had fallen off because of the reduced purchasing power of the native population and unfavourable conditions in European markets.

Insurance of Food Supply.

161. The measures taken by the Government for the control and distribution of food supplies had, so far, proved sufficient to mitigate very greatly the hardships encountered during the past eighteen months, and to reduce acute distress to a very small compass. There is no doubt that these remediary measures were gratefully appreciated by the people. Nor was there any reason to believe that a continuance of a similar policy would not have been successful in tiding the country over even another year of scarcity without any serious risk of genuine famine, though naturally each successive year would present graver problems than the last, as the stock of money diminished and food reserves dwindled.

162. Fortunately, the rains of last summer, though by no means superabundant, were adequate to produce a satisfactory harvest, and the gloomy prognostications of six months ago are already being forgotten in a feeling of cheerful optimism which one hopes will be justified by further good rains next summer.

163. In a country such as the Sudan, where, with the inconstant aid of a sparse and capricious rainfall, an agricultural and pastoral population is engaged in an unequal contest against natural conditions, the ups and downs of fortune have a very steep gradient, and the step from comfort to poverty is a short one. The rapidity of the change from one extreme to another is hard to realise for those whose experience is limited to countries where a multiplicity of the means of livelihood and an ancient civilisation give comparative security of outlook to the bulk of the population.

164. Yet, even in the Sudan, there has been a great change for the better in this respect during the last twenty years. Foundations are stronger, and better use can be made of natural resources.

165. It needs but a slight knowledge of the country's history to

picture in imagination the plight of the people in pre-occupation days after two years of crop failures, but even in more recent times there has been a marked and continuous decline in the severity of the consequences of the periodic shortages of food-crops, which have occurred in 1913–14, 1919–20 and 1926–27. Experience has taught its lessons, and it is now possible to combat these visitations more effectively than in the past, but this is largely because both the Government and the people are now far better equipped with means to cope with these disasters.

166. The economic development of the country and the improvement in roads and communications have made grain much more mobile than it used to be, and concurrently there has grown up a more apt, or at any rate a more active and widespread, native trading community which is quick to seize opportunities both within and without the Sudan. It has, in fact, been necessary to put a check on enterprise of this kind when carried to excess in the shape of profiteering, but, on the whole, this readiness to strike out on new lines has proved of great advantage.

167. Out of 48,000 tons of grain imported in 1926 and 1927 only 11,260 tons were purchased by Government for purposes of control of markets and poor relief. Very large quantities of the import came into the country through native hands from India, Egypt, and other countries overseas. It is impossible to say how many thousands of tons of grain came forward through native channels from parts of the Sudan hitherto beyond the radius of supply for central and northern districts. It is estimated, roughly, that the Nuba Mountains Province alone put at least 36,000 tons on the market in 1926–27. It was largely because of the confidence placed in the local trader to seek out grain here and abroad and by non-interference with legitimate trading operations that the Government was able to keep down its own purchases for reserve to such a small quantity.

168. The new railway to Kassala in the Eastern Sudan enabled dura imported into Port Sudan to be put on the Kassala market in three or four days instead of in as many weeks, while the ubiquity of the motor car has brought many remote districts into contact with northern trade demands.

169. Another new and powerful factor in dealing with grain shortage is the remarkable increase in shipping facilities at Port Sudan of recent years, and the close touch this provides with foreign sources of supply, while the growth of subsidiary industries in the Sudan, such as the gum trade and the increased export of minor products has also helped to provide the people with money for the purchase of food.

170. This opening out of the country and its gradual evolution into a more homogeneous economic unit with common or mutual interests is a natural and desirable development, but it will always be necessary to take every precaution possible to protect the more unsophisticated portions of the population, not only against exploitation by the wandering native merchant, but also against themselves, and their tendency to sell more of their food products than they can afford to part with.

171. The vast new enterprise of cotton-growing in the Gezira irrigation scheme has been a tower of strength to the Sudan during the last two critical years. The proceeds of sales of cotton have brought some £E. 2,000,000 into the hands of the tenants. Great numbers of natives from outside the scheme have flocked in to help in the cleaning of the land and picking of cotton, and have thus found a means of livelihood in times of hardship, and last, but not least, the large area of dura, 50,000 acres, grown under assured conditions as to water supply has precluded any risk of serious shortage in that part of the country.

172. These various forms of insurance make famine a far less formidable work in the Sudan than it used to be, and it will now be possible to face future catastrophes with still greater confidence owing to the extension of the railway into the more southern and fertile areas of Gedaref, and its continuation this year to Makwar, where it will cross the Blue Nile on the Sennar Dam and link up with the existing main line from El Obeid to Port Sudan. These regions enjoy a more copious rainfall than areas further north and were at one time fairly thickly inhabited. As time goes on and population increases they should play an important part in producing the extra 50,000 tons of grain per annum which the country needs to put its food supply on a secure basis. When this security is reached it will be possible to go further ahead with other economic "money" crops, such as rain-grown cotton, sesame and ground-nuts. At present, in the more northerly districts, these crops go by the board as soon as grain becomes scarce.

173. A great deal of study has been given during the last few years to the possibility of finding an opening for produce from the Southern Sudan (Upper Nile, Mongalla, Nuba Mountains and Bahr-el-Ghazal Provinces). Rain-grown cotton is making headway in all of them, and during the last two years the Nuba Mountains and Upper Nile Provinces have come into play as most useful sources of grain supply in times of scarcity in the north. Generally speaking, these provinces have a good rainfall and in certain districts a large population, but, for the most part, they are cut off by distance from access to northern markets.

174. An important step has recently been taken which will tend largely to neutralise this disadvantage and may have far-reaching results in the future. Under a new system of zone rates recently introduced by the Sudan Railways and Steamers Department it is now possible to ship grain from the remotest station on the Upper Nile to Khartum at a maximum rate of P.T. 70 per ton, about 8·74*d.* per cwt. A similar rate applies on the railway. For shorter distances the rate is proportionately less.

175. The benefits of the new rates are already apparent. It should do much to steady prices and ensure supply in the future. Khartum and the north are now open as a market to any native in the south who likes to grow grain for sale at a price which, though low, is not disproportionate to the primitive standard of living prevailing in the southern districts. The wider the Sudan can cast its net for food crops the less will be the violence of the periodic

fluctuations in the price of grain with all the concomitant disturbance to the economic life of the country. The road to safety is long and difficult, but much of it has already been covered.

176. Even in the extreme south rains have lately been niggardly and ill-spaced, and in certain districts, *e.g.*, Latuka, in Mongalla Province, and Bor, in Upper Nile Province, it has been necessary to import grain in small quantities to eke out local supplies.

177. The burden of high grain prices has weighed heavily upon trade, which has been held up from collapse mainly by the excellent results attained in the Gezira scheme, and to a less degree by a further large export of gum arabic and certain other minor products.

178. So far from exporting grain to the value of some £E. 400,000, the Sudan has had to pay £E. 440,000 in these last two years for imported grain, and is, therefore, some £E. 800,000 to the bad on its dura account.

179. The money paid for grain produced in the Sudan has merely changed hands, and a good deal of it will no doubt soon come into circulation again, but the high prices have meant the impoverishment of the wage-earning class, on whom much of the native and foreign trade depends. In certain districts the producer himself has been in very sore straits, and lack of grazing has brought misfortune to animal owners.

180. In co-operation with the Supplies Department of the Sudan Defence Force, the Government and army requirements of grain were pooled and the responsibility of obtaining grain were shared between the Commercial Intelligence Branch of the Central Economic Board and the Supplies Department, Sudan Defence Force. By advising the army as to prices and the most suitable time and place for purchase, supplies were obtained on reasonable terms without unduly retarding the general trend of prices to a lower and more reasonable level.

181. The resumption of the export of grain, except for the small customary export to the Halfa–Assuan district, and a special strictly limited export from Kassala Province to neighbouring districts in Eritrea, where crops have failed, cannot be permitted until the reserve of grain in the country has been fully replenished.

182. It may appear somewhat contradictory to be contemplating already the reopening of an export trade in grain from a country which suffers from such variable yields as the Sudan, but grain, though less essential nowadays to the people in the central Sudan as a money crop, owing to the growth of cotton cultivation and other employment, still plays a very important part in providing them with funds to pay taxes and to purchase clothes and necessary items of domestic equipment. It is, therefore, desirable to prevent dura becoming a drug on the market and unsaleable except at very low prices, as is liable to happen when a surplus rapidly accumulates after a spell of good rains. An unduly cheap and over-plentiful supply of grain is also thoroughly demoralising to the habits of the people and promotes idleness and excessive consumption of native beer.

183. Export of grain, if action is taken in good time to stop or curtail exports so as to prevent any risk of serious depletion of food reserves, has a steadying effect on prices and exerts a healthy influence on economic conditions in general.

Purchasing Power of the People.

184. The cost of living of the native population is profoundly affected by the price of grain, and, with the gradual fall in these prices from May 1927 onwards from P.T. 180 to P.T. 60 per ardeb (12*s*. 5*d*. to 4*s*. 2*d*. per cwt.), conditions have improved enormously. Trade has begun to take a turn for the better, though it was not till the very end of 1927 that any definite signs of improvement became apparent.

185. The import values of the following articles are illustrative of the uneven economic conditions of the last three years :—

Value of imports (in thousands £E.).

	1925.	1926.	1927.
Cotton piece goods ...	1,180	830	837
Coffee	318	243	212
Tea	159	219	164

186. One of the best indexes of the economic condition of the people is the consumption of sugar, and the following table, showing sales by provinces in 1926 and 1927, is instructive. In 1925, the total consumption was only 15,439 tons, and it may seem peculiar that the increased consumption of 20,341 tons in 1926, which was partly due to a reduction in price, has actually been exceeded, though by only a small amount, in such a bad year as 1927. On the whole, however, the table shows fairly accurately how the people have fared in the different provinces.

187. Quantity of sugar consumed in each province and approximate amount spent on sugar by the people, 1926–27 :—

	1926.		1927.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£E.	Tons.	£E.
Khartum	3,029*	167,605	3,187*	176,347
Blue Nile	3,447	202,224	4,157	243,877
White Nile...	1,571	94,260	1,208	72,480
Nuba Mountains	250	16,833	269	18,113
Bahr-el-Ghazal	107	9,130	76	6,485
Upper Nile	182	10,920	196	11,760
Mongalla	44	2,786	34	2,153
Berber	2,694	136,496	2,521	127,730
Darfur	248	19,674	334	26,497
Dongola	2,372	123,344	2,413	125,476
Fung	506	33,059	398	26,002
Halfa	619	30,537	652	32,165
Kassala	1,071	56,406	961	50,612
Kordofan	3,409	222,721	3,075	200,900
Red Sea	792	38,016	932	44,736
Totals	20,341	1,164,011	20,413	1,165,333

* Net sales, exclusive of sugar sold at Khartum for other provinces.

188. Where rains were bad, *e.g.*, in the White Nile, Berber, Fung, Kassala and Kordofan Provinces, sales have declined. In Dongola and Halfa Provinces, owing to a good Nile flood, sales increased. In the Blue Nile Province, where there was a large increase in consumption, cotton sales have counteracted the effect of a poor rainfall. In Berber and Kassala Provinces, also, the cotton crops have helped to prevent a heavy fall in sales. In Red Sea Province fair rains and an improved cotton yield led to an expansion in demand. This province and Halfa Province had access to cheaper grain than other northern provinces. In Khartum Province, where there is a large urban population, sales were practically stationary, a result which is not unsatisfactory considering the difficulties of the food situation.

189. The net conclusion from the foregoing is the same as that suggested by other considerations, that, owing to better and steadily improving means of earning money, the people have come through the ordeal of the last two years of scarcity fairly successfully.

Gum Arabic.

190. Next to cotton, gum arabic is the largest export, in some years amounting to about £E. 1 million in value. It represents one of the most important means of earning money, especially in the western Sudan. In spite of low prices, exports in 1927 were only 1,505 tons less than in 1926, a record year, and reached the large total of 21,239 tons. Although there has been a further fall in prices since the opening of the 1927–28 season, gum is being brought into the markets in larger quantities than ever. This tends to confirm the opinion that receipts from gum are coming to be regarded by the native as a regular source of income and not merely as a means of obtaining sufficient money to pay taxes, though a good deal of this activity is attributable to the need for money to pay off arrears of the last two years.

191. The price is far from being attractive, and it seems too much to expect that once the losses of the last two years have been made good and plentiful crops produce a feeling of ease, gum collection will be maintained at its present rate. On the other hand, it must be remembered that the provision of new railways, roads and wells is opening more and more districts to the gum picker.

192. European and foreign markets appear to be getting so accustomed to the idea of a steady and large annual production of gum in the Sudan that they are now buying to a considerable extent from hand to mouth.

193. Nearly all the gum produced is now sold under a system of local auctions, the success of which is a good advertisement for a method which, on the whole, ensures a fair deal to both partners to the transaction. When properly managed, these auctions are a great boon to the native producer, and they are being gradually extended to other markets and other produce. Combined with standardised and accurate weights and measures, which are being introduced by Governments as widely and quickly as circumstances

permit, these auction markets will provide an incentive to the people to maintain and increase production and help to establish interior trade on a sound basis.

194. Experience of the extreme irregularity which has always characterised local grain prices has no doubt accustomed the people in the central and northern parts of the country to the idea that other products are liable to similar spasmodic movements, but these fluctuations are very confusing to the native mind, especially in the remoter districts. A sudden fall in values leads to disappointment and inertia and is a serious handicap to economic expansion in the less developed areas. Some trades are carried on over vast distances where traffic takes weeks or months along routes that lie far beyond the range of current market intelligence. Since the war it has been by no means a rare experience for sellers to find that in the course of a few months, since their last visit to a market, their produce has fallen to half its previous value or is actually unsaleable.

Live-stock Trade.

195. Fortunately, the fall in gum prices during the last three years has been gradual, and so far the industry has not been subjected to sudden crises. But in the cattle and sheep trade there is still a feeling, not wholly confined to native circles, that the good times that suddenly ended with the slump of 1920 will return, and that conditions since then have been abnormally depressed by some unknown agency which ought to be subject to control.

196. The patience and persistence with which such a trade as that in the export of cattle to Egypt, many of which are trekked hundreds of miles from Wadai to the railway at El Obeid, is carried on, are remarkable, and much the same may be said of the camel export trade to Upper Egypt from the South-Eastern Sudan. In the west it is reported that Sudan camels are being sold for destinations as far afield as Kano in Nigeria. These movements are paralleled by the constant stream of pilgrims from West Africa to the Red Sea on their way to Mecca, and their return across Africa years afterwards to their homes.

197. As many as 10,000 camels are estimated to be exported in a favourable year to markets in Upper Egypt, mostly by Rashaida Arabs, though others are now taking part in the trade. These camels, nearly all of which are slaughtered for meat, are not sent beyond a certain range in Egypt. If the trade can be pushed further northward it should expand.

198. The merchant adventurer from the north is to be found in the remotest parts of the Southern Sudan. One class of these, the native sailing-boat owner, goes southward with the north wind in the winter, paddles his way along hundreds of miles of river, and returns on the south wind in the following summer. All this out of the way trading adds up to a large total. It will always remain somewhat of a mystery, and it is quite impossible to estimate its proportions.

199. One of its latest curiosities is that, although no extra mortality of sheep is reported, the export of sheep-skins has steadily increased from 267,000 in 1924 to over 600,000 in 1926 and 1927. As presumably some one eats the sheep that are slaughtered, it may perhaps be assumed that owing to the high cost of grain people have been driven to eat more meat. Prosperity in certain cotton-growing areas has of course led to an increased consumption of meat, but there appears to be a decrease in the consumption of meat in the chief towns.

200. There has been a further decrease in the export trade in cattle and sheep, which is carried on entirely with Egypt, cattle for the Alexandria market being exported by the Red Sea route and the remainder viâ Wadi Halfa and the Nile. The export has not been hampered this year by interruptions owing to disease. With Egyptian cotton at a good price, there should be an improvement in demand.

201. A laboratory for the manufacture of cattle plague serum is being started by the Veterinary Department near Malakal. If successful, the cost of serum should be greatly reduced, thus enabling more effective measures to be taken against outbreaks of cattle plague. The benefit will be primarily to internal trade in cattle, which is extensive.

Economic Survey.

202. During the last twelve months an economic survey has been made by district official of Nuba Mountains Province and of certain districts in the Upper Nile and Fung Provinces. These reports are of course limited in scope owing to the paucity of officials available for the work and the numerous calls on their time for other duties. The information was called for mainly in connexion with proposals as to new railways and improved communications in general, but also to find the best line of development for promising areas in the south of the Sudan.

203. Perhaps the most salient feature in these valuable reports, which have only just been received and need careful study, is the progress which has already followed on the development of a road system, new as it is, in the more favoured areas. Transport in one form or another is the underlying question, since with requisite transport facilities the people can grow a "money" crop and be given more of an interest in life. Many of the population are apathetic and show no signs of wanting to better themselves, but it is open to question how much of this apathy is the result of sheer boredom and lack of opportunity. Roads set up contact with outside forces, and though they may not produce concrete economic results immediately, they provide access for new ideas and at any rate prepare the way for closer investigation of possibilities.

Transport and Roads.

204. The steady penetration of the country by the motor car continues. The number of cars, including lorries, has increased

from 849 in 1925 to 1,472 in 1927. Imports of motor vehicles and chasis complete were valued at £E. 100,189 in 1927, as compared with £E. 55,116 in 1926. Fresh makes of car are making an appearance. Imports of British cars are increasing, but American makes predominate.

205. Many miles of new motorable roads have been opened. An important nodal point for road traffic will be at Juba, in Mongalla Province, the new terminal station of the southern steamer service. Juba will take the place of Rejaf, and will also be the headquarters of the province. From here, in the dry weather, it is possible to motor to Nairobi and the Victoria Falls, also to Nimule, the northern station of the Kenya–Uganda steamer and rail service, to Kampala and Kisumu on Lake Victoria. An all-weather road to Aba on the Congo frontier links up with the Belgian Congo road system and affords a route for a considerable quantity of traffic in both directions. Hundreds of passengers are now making the through journey by these Central African routes, and Juba bids fair to become the junction of a large international road system. In the Eastern Sudan private cars have made their way viâ Kurmuk into Abyssinia. Further south, the Ethiopian Motor Transport Company, under a concession from the Abyssinian Government, is at work in making a motor road connecting Gambeila, the Sudan trading station in Abyssinia on the Baro River, with Goré on the plateau. Cars are already running on that part of the road which has been completed, and are proving a benefit to trade, especially in Abyssinian coffee, which is also finding an outlet on the new Kurmuk–Roseires Road.

206. In the Yei district of Mongalla Province the road system is also being improved as a result of the activities of the Nile–Congo Divide Syndicate, whose concession for mineral prospecting has been renewed.

207. It is understood that the Shell Company hope to have completed their installation at Port Sudan for the import of petrol and oil in bulk by the end of the year. At present all petrol is imported in tins from Egypt.

Weights and Measures.

208. The delivery of some of the standards and workshop equipment, so long delayed by labour trouble in England, arrived in time to enable the weights and measures section to commence the testing and adjustment of weights and weighing instruments by the latter part of September.

209. An order was published on the 16th September under "The Public Order Ordinance, 1921," requiring all weights and instruments of weight in the Province of Khartum to be submitted to the weights and measures section of the Central Economic Board for verification and stamping. Under this order a period of three months' free service was provided, but so great was the response from the traders of the three towns of Khartum, Khartum North and Omdurman that it was found necessary to extend this period on two

occasions, firstly, to the 16th December, 1927, and, finally, to the end of January 1928.

210. During the period the 1st October, 1927, to the 31st January, 1928, the following weights and instruments of weights were dealt with :—

——	Stamped.	Rejected.	Total.	Number of Traders.
Weights	6,547	2,509	9,056	1,053
Instruments	1,058	979	2,037	1,629

The condition of the weights submitted was at first very poor, and rejections were numerous. Latterly, the standard was found to be greatly improved. Native makers of brass weights in Omdurman have quickly adapted themselves to the requirements of the regulations, and are now producing a much improved article. Many curious types of weights have come to light in the short period under report. One set of Imperial avoirdupois weights, used as the "rotl" and sub-multiples, is dated 1824.

211. The standard measures of capacity (dry measure) are now in common use in all the principal markets since this reform was inaugurated in 1922; 28,117 of these measures have been distributed all over the country. Demands from provinces are continuous and increasing. It is intended to standardise and issue liquid measures based on the "rotl," and primary standards are now being tested by the Board of Trade in London.

Port Sudan Shipping.

212. The following table shows the number of ships entering Port Sudan, and tonnage :—

Nationality	Number of vessels.	International tons.	Net registered tons.
British	605	2,809,872	2,291,697
Italian	105	317,565	253,150
French	19	55,688	42,652
German	29	160,353	122,984
Dutch	47	233,130	181,735
Norwegian ...	6	18,441	13,870
Belgian	5	16,893	13,815
Japanese	11	59,309	48,679
Russian	1	8,742	6,869
Greek	2	4,411	3,034
Finnish	2	7,519	5,259
Egyptian	19	3,072	1,926
Turkish	1	633	495
American	1	330	260
Total ...	853	3,695,958	2,986,425
Foreign tonnage ...	248	886,086	694,728

The increase in British tonnage was 45,970 tons, *i.e.*, from 2,763,902 in 1926 to 2,809,872 in 1927.

Sudan Chamber of Commerce.

213. Various official meetings and informal discussions have been held with the Sudan Chamber of Commerce, who have also collaborated in advising on commercial points involved in new ordinances. The chief matters discussed with the chamber were railway rates—tariff on piece-goods, Registration of Partnerships Ordinance, and the Traders' Licence and Taxation of Business Profits Ordinance, customs deposits, standard weights and measures. The annual joint meeting between the chamber of commerce and the Central Economic Board was held on the 19th March, at which a wide range of subjects was covered.

214. In April last the chamber's new offices and bourse were opened, and should form a useful focus for the transaction of business.

The Imperial Institute.

215. Funds have been provided to renovate and add to the Sudan exhibits in the Sudan court at the Imperial Institute, especially in view of the increased number of visitors to the institute and the use made of it for instructional purposes.

Chapter VI.—Communications.

Railways and Steamers.

216. The general manager reports steady progress in all branches of the department. Although, as shown in the table given below, the gross profit for the year has decreased slightly from £E. 740,919 to £E. 724,180, the total revenue increased by £E. 64,754, from £E. 2,115,999 to £E. 2,180,753. After making appropriations from the gross revenue amounting to £E. 295,562 as shown below, the balance accruing to Central Government funds has increased from £E. 401,950 to £E. 428,618. The ratio of expenditure to earnings increased slightly from 65 per cent. to 66·8 per cent.

217. The following is a comparison of results obtained during 1927 with those of the previous five years :—

Year.	Revenue.	Expenses.	Ratio of Expenditure to Earnings.	Profit.	Appropriations from Profit.	Balance accruing to Central Government Funds.
	£E.	£E.	Per cent.	£E.	£E.	£E.
1922 ...	1,632,343	1,300,148	79·6	332,195	...	332,195
1923 ...	1,743,750	1,251,127	71·8	492,623	26,655	465,968
1924 ...	1,914,322	1,185,846	61·9	728,476	92,532	635,944
1925 ...	1,909,650	1,274,253	66·7	635,397	247,568	387,829
1926 ...	2,115,999	1,375,080	65·0	740,919	338,968	401,950
1927 ...	2,180,753	1,456,573	66·8	724,180	295,562	428,618

If the profit on transport of Government stores and personnel were deducted, the balance of profit accruing to Central Government funds would be about £E. 300,000, which represents about 3·4 per cent. on ordinary capital expenditure after meeting all fixed interest charges on loans and other appropriations.

218. The appropriations from gross profit for the last two years are :—

	1926. £E.	1927. £E.
Interest charges	102,469	130,978
Pensions, &c.	18,452	23,237
Special reserves	6,097	6,347
Capital improvements ...	211,950	135,000

219. As from the 15th January, 1927, the surtax on second and third class fares was reduced from 60 per cent. and 80 per cent., respectively, to 40 per cent. as regards the railways and Halfa-Shellal Reach steamers, and from 50 per cent. to 25 per cent. on other steamer services. On the numbers of passengers carried in 1926 this alteration in fares represented a reduction in receipts of about £E. 40,000.

220. Passenger traffic on the railways decreased slightly as compared with 1926, the numbers carried being 544,226 and 551,408 respectively. The revenue therefrom fell from £E. 300,577 to £E. 286,656. The decrease in numbers is attributable to the depression in trade due to bad harvests in 1925 and 1926.

221. Despite the continued embargo on the export of dura and the heavy falling off in the ground-nut and sesame traffic, goods traffic on the railway shows a satisfactory increase, due principally to the increase in the output of cotton and cotton-seed from the Gezira, the total revenue-earning tonnage transported being 505,951 tons as against 459,759 tons, with receipts therefrom £E. 1,165,975 and £E. 1,120,734 respectively.

222. The revenue from the Kassala line has again increased, the total being £E. 96,941 against £E. 82,427 during the previous year.

223. The following table gives details of the tonnage of the principal exports and imports carried during the last five years :—

——	1923.	1924.	1925.	1926.	1927.
Exports—	Tons.	Tons.	Tons.	Tons.	Tons.
Public	114,869	120,796	111,370	128,741	142,090
Government	2,541	4,833	4,530	5,430	3,821
Total	117,410	125,629	115,900	134,171	145,911
Cotton, ginned	4,553	5,429	5,436	21,908	27,737
Cotton, unginned, for ginning at Port Sudan	2,294	4,230	6,862	5,021	8,806
Cotton-seed	7,613	11,843	9,920	44,576	54,401
Dates	1,505	1,976	993	865	1,344
Dom nuts	325	2,020	5,200	6,616	5,198
Dura	52,892	47,032	34,779	2,234	4,839
Ground-nuts	7,325	11,553	10,907	8,318	1,439
Gum	23,375	21,448	18,721	23,118	21,638
Hides	704	742	1,038	1,210	1,958
Sesame	10,326	9,491	10,587	11,907	8,750
Imports—					
Public	58,946	82,576	94,268	124,232	142,472
Government	30,236	43,458	20,044	13,359	20,752
Total	89,182	126,034	114,312	137,591	163,224
Cement	3,472	6,977	7,874	6,443	14,640
Cotton stuff	4,317	4,042	5,138	4,693	4,902
Dura	...	...	...	16,632	17,981
Petroleum	1,955	2,407	3,752	3,775	4,057
Salt	7,789	9,107	9,120	10,416	10,911
Soap	1,519	2,017	2,215	1,763	2,287
Sugar	9,526	12,382	17,520	20,961	20,696
Tea	1,291	1,338	1,627	1,992	1,920
Tobacco and cigarettes ...	443	421	413	390	392

224. It will be seen that exports of cotton and cotton-seed have increased by 26·6 per cent. and 22 per cent. respectively. The falling off in the export of ground-nuts and of sesame was due to the failure of the rains in certain areas in 1926. Conditions in 1927 were very much better, and an increase in the export of these commodities may be expected. The total tonnage of imports increased by 25,633 tons, of which 18,240 was in respect of public goods. The average receipts per ton lifted (excluding stone traffic in connexion with works in Gezira, &c.) was £E. 2·579 mms. as against £E. 2·697 mms. in 1926. The average earnings per ton mile fell from 1·591*d.* to 1·523*d.*

225. The cattle trade was again disappointing, as will be seen from the following table giving the numbers exported during the past three years :—

	1925.	1926.	1927.
Cattle	19,723	16,674	12,591
Sheep	38,076	24,519	23,407

226. The rates for certain classes of building materials have been reduced; otherwise no important alterations have been made

during the year. The question of consolidating the rates and surtaxes at the present figures, and of eliminating certain anomalies in the rates and conditions of carriage, is receiving attention.

227. Track work on the Kassala–Gedaref Railway commenced on the 14th December, 1926. On the 31st December, 1926, railhead was 14½ miles from Kassaia, and on the 27th January, 1927, the site of the bridge on the Atbara River was reached. A steel girder bridge 1,100 feet long is being constructed over the river at Abu Deleig under contract by Messrs. Dorman, Long and Co., the contract price being £E. 98,540. Satisfactory progress has been made, and it is hoped the bridge will be completed by June 1928. In order to permit of work on railhead being continued on the west side of the River Atbara during the construction of the bridge, a temporary wooden bridge has been built. This was completed on the 24th November, and track-laying on the western bank of the river is now proceeding at the rate of about 1½ miles a day. It is anticipated that railhead will reach Gedaref on the 18th February, 1928. It has now been decided that the railway shall be extended from Gedaref to Makwar, a distance of 140 miles. The route to be followed from Gedaref will be viâ Hawata on the River Rahad, over the River Dinder near Ereidibo, thence to El Suki on the Blue Nile, finally linking up with the main line near Kassab-el-Doleib. Orders for the necessary material have been placed, and it is hoped it may arrive in time for railhead to be extended from Gedaref before the end of 1928. In the meantime it has been decided to construct the line from Kassab-el-Doleib to El Suki (21 miles) with material available in the country. Sites for bridges over the Rahad and Dinder are being surveyed. No difficulty is expected in finding a favourable site with good foundations for the bridge over the Rahad, but it is probable that the crossing of the Dinder will present less favourable conditions, and that cylinders to carry the bridge will have to be sunk.

Steamers.

228. The results of the working of the steamers on the Southern Reach in 1927 were not so good as in the previous year, the relative figures being :—

	1926.	1927.
	£E.	£E.
Revenue	199,562	193,452
Working expenses ...	157,706	166,026
Profit	41,856	27,426
Ratio of expenditure to earnings	Per cent. 79·0	Per cent. 85·8

This is due to two main reasons—on the receipts side, to a general falling off in the revenue from all items, and on the expenditure side to the fact that, with the increase in imports of petrol, a special monthly service had to be maintained at additional cost which was inevitable.

229. The receipts from the Halfa–Shellal Reach increased from £E. 61,822 to £E. 64,949 and the net revenue from £E. 20,006 to £E. 23,863. Expenditure was slightly less than in the previous year, and the ratio of expenditure to earnings was 63·3 per cent. as compared with 67·6 per cent. in 1926. Passengers carried increased by 8,424, but owing to the reduced fares the passenger receipts are only increased by £E. 885. Goods traffic increased by 3,765 tons.

230. The Dongola Reach service also shows a slight improvement, a profit of £E. 126 having been earned as compared with a loss of £E. 411 in 1926. This service may be considered as a feeder for the railway and is not expected to do more than cover expenses.

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Port Sudan.

231. The masonry work on the two new coal quays was practically completed by the end of 1926. The final levelling off of these quays and the trimming of the submarine excavation to give a proved depth of 30 feet 6 inches at low water summer level has been completed. The erection of the four coal transporters has taken longer than was anticipated; two of these are now working and the other two are being subjected to final adjustment. Satisfactory arrangements have been made with the various interests concerned in regard to the allocation of space for the storage of bunker coal on these quays.

232. Work on the extension of the main quays proceeded steadily throughout the year. The whole of the submarine excavation for foundations has been completed and about 45 per cent. of the block work finished. Since August, however, the progress of the work has been seriously delayed by the unexpected necessity for taking up a portion of the existing quay before a satisfactory junction of the new and old work could be made. Owing to faults in the foundations of the old quays it will be necessary to reconstruct at least 100 feet of the old wall before the new wall can be completed. The adaptation of the east temporary quays to provide better berthing facilities for small craft has been completed.

233. In connexion with the installation of storage tanks for petroleum products, &c., by the Shell Company of the Sudan (Limited) at Port Sudan (South Town) a special berth is required. A small quay suitable for the accommodation of steamers of not more than 300 feet in length is being constructed at an estimated cost of £E. 8,000. Oil tankers will be moored "stern on" to the shore and oil discharged by floating pipe-line.

234. The principle that the Government should be the sole owners of lighters at Port Sudan has been accepted, and a tug and six lighters have been purchased from private interests at the port.

235. The number of vessels using Port Sudan has again increased, 853 ships with a total of 3,695,958 international tons calling as compared with 825 ships with a total of 3,578,367

international tons in 1926. The coal bunker business shows a further decrease, only 49,176 tons being shipped as compared with 102,176 in the previous year.

236. The total tonnage handled on the quays has increased from 1,130,487 to 1,184,355 tons, an increase of 53,868 tons or nearly 5 per cent. The total quantity of cargo landed and shipped (including bunker coal and oil fuel) increased from 546,668 tons to 566,458 tons. Tonnage handled per foot of quays available during the year, excluding oil fuel, was 287·5. This figure compared very favourably with the work done at other ports. Owing to the bad season the total tonnage shipped outwards (from quay to ship) fell from 237,190 to 192,710 tons. This, however, is more than compensated for by the increase in inwards tonnage (ship to quay), which rose from 309,478 tons to 373,748 tons. The number of passengers (including troops) embarked and disembarked decreased from 7,727 to 7,553.

237. Work in the Port Sudan ginning factory increased considerably, 10,482 tons of seed-cotton being dealt with during the season as compared with 5,216 tons the previous year. Receipts increased from £E. 11,559 to £E. 22,093.

Tourist Traffic.

238. Tourist bookings show an increase, the receipts during the past three seasons being as follows:—

	£E.
1924–25	18,029
1925–26	26,276
1926–27	27,615

During the year under review considerable additional revenue could have been obtained if it had been possible to provide special steamers for shooting parties, &c. The rapid development of the tourist traffic on the White Nile has entailed the running of a weekly service between Khartum and Rejaf. Additional steamers suitable for this traffic are necessary, and one is already on order.

Catering.

239. The operations of this side of the department continue to increase, and the results obtained are generally satisfactory. The service comprises the catering for passengers travelling by rail and steamer between Shellal and Rejaf and between the Nile and the Red Sea, as well as the running of hotels in Khartum and Port Sudan. Numerous calls are also made on its resources in connexion with special tours. During January and February an average of from 400 to 500 passengers and residents are catered for daily.

Mechanical Transport.

240. The mechanical transport services have been well maintained, and have proved of great value during the year. The

Mongalla fleet was mostly employed on the various dry-weather roads, *e.g.*, Rejaf–Torit, Rejaf–Opari, &c., in the transport of cotton, Government stores, &c. The Rejaf–Aba road was maintained throughout the year and handed over to the Public Works Department on the 1st January, 1928. The latter department will in future be responsible for its upkeep. The Nuba Mountains fleet was engaged during the early part of the year in the transport of building material and machinery for the ginning factories at Talodi and Kadugli and in bringing rain-grown cotton to the river. It was closed down on the 23rd April and reopened on the 13th December. Transport was also provided for the Posts and Telegraphs Department in connexion with the construction of a new telegraph line between Abu Zabad and Nahud, and on the 5th November a fleet of lorries commenced work in the Gezira in connexion with the extension of the irrigated area. Work during the year has confirmed the conclusion, arrived at as a result of the experiments with various types of vehicles in 1926, that the six-wheeled lorry on pneumatic tyres is most suitable for work in this country. The mechanical transport workshops were transferred from Khartum North to Atbara in November.

Railway Advisory Board.

241. The Railway Advisory Board met on several occasions throughout the year, both in the Sudan and in London, and considered the most important matters affecting the policy of the department. This board continues to be of great value. In view of Sir George Schuster's departure, Sir Edward Midwinter has been appointed chairman of the board, and Mr. A. J. C. Huddleston, financial secretary, a member.

Posts and Telegraphs.

242. The authorised establishment of this department was 1,313 in 1927, as compared with 1,281 in 1926; the actual strength on the 31st December, 1927, was 1,287, against 1,254 in 1926. Out of thirty-eight vacancies filled during the year thirty-seven were filled by boys educated in Sudan schools.

243. The director reports that revenue totalled £E. 146,349, an increase of £E. 4,143 over 1926, the increase being largely due to a greater sale of postage stamps and to telephone rents in the Gezira canalised area. Expenditure totalled £E. 187,883, as compared with £E. 187,959 in 1926. Fresh credits amounting to £E. 31,025 were opened during the year, of which £E. 11,424 was assigned to new telegraph land-lines and the overhaul of Atbara–Khartum and Khartum–Jebelein lines; £E. 4,050 to wireless improvements and £E. 13,167 to telephone services.

244. Permanent post and telegraph offices were opened during the year at Kaka, Kebkebia and Zalingei. Tonga and Toinya post and telegraph offices were closed. All wireless stations were inspected during the year by British technical officials. Two new

travelling post office mail vans were brought into use during the year.

245. A comprehensive building programme was carried out during the year, including the completion of post and telegraph offices at Nahud, Berber, El Odaiya, Kaka and Kadugli, and quarters for post and telegraph officials were erected at many out-stations. The construction of the new general post office at Khartum was practially completed by the end of the year. Work is now in progress on electric light and telephone installations, public counter, grillage, &c., and it is hoped that the building, which is one of the finest in the town, will be taken into use by the summer of 1928.

246. Normal mail services were continued throughout the year. Arrangements were made for the reciprocal exchange of direct closed mails between Port Sudan and Perth (Western Australia), to include ordinary and registered correspondence to and from Australia and New Zealand, and between Port Sudan and Colombo, to include ordinary and registered correspondence to and from Ceylon, India and the Far East. This has reduced the time taken in transmission by from seven to ten days, and is of great assistance to shippers of cargo, who are now enabled to send shipping documents by the same steamer as the cargo instead of viâ Port Said. This obviates a delay of ten days between the arrival of the cargo and the shipping documents.

247. The Khartum–Kisumu experimental air service carried out five flights from Khartum to Kisumu. No Sudan mails were despatched by this service, and only a limited quantity of mail was brought from Kisumu and Jinja to Khartum. Two bags from London to Kisumu and Kampala were transmitted by this service.

248. The acceleration of internal mail services by contract with motor owners was extended during the year, and great savings in time have been effected. Between El Obeid and Talodi the saving is five and a quarter days in the dry season and between Nahud and El Fasher eight days sixteen hours.

249. The estimated number of postal packets (excluding parcels) dealt with in 1927 was 18,919,416, an increase of 725,209, or 3·98 per cent., as compared with 1926. The increase was general except in the case of letters and postcards exchanged with Egypt, which again showed a small decrease. A comparative statement of the number of postal packets (excluding parcels) dealt with during the past six years is given below to illustrate the progressive growth of traffic :—

	Ordinary.	Registered.	Total.
1922	12,648,766	482,825	13,131,591
1923	13,634,868	477,614	14,112,482
1924	15,524,262	536,604	16,060,866
1925	15,991,014	564,574	16,555,588
1926	17,623,685	570,522	18,194,207
1927	18,307,328	612,088	18,919,416

250. The number of money orders issued and paid during the year was 376,928, as compared with 343,427 the previous year, an

increase of 33,501. The aggregate value, however, decreased by £E. 171,395 to £E. 3,160,524. The revenue earned from commission on money orders amounted to £E. 8,838, a decrease of £E. 307, as compared with 1926. The value of money orders exchanged in the Sudan decreased by £E. 198,616, which is attributed to trade depression and the increasing use of banking facilities; 14,291 British postal orders to the value of £E. 10,248 were issued during the year, as against 12,023 orders of £E. 8,736 value.

251. The total number of parcels dealt with during the year was 256,321, as against 255,000 in the previous year, an increase of 1,321, and receipts in this connexion totalled £E. 19,656, an increase of 2 per cent. on last year's figure of £E. 19,252. Cash-on-delivery parcels increased from 57,816 in 1926 to 65,582, whilst their value increased by £E. 9,241 from £E. 120,598 in 1926 to £E. 129,819 in 1927.

252. The number of offices open to savings bank facilities remained unchanged. During the year 1,112 deposit accounts opened and 648 closed, as against 1,010 accounts opened and 564 closed in 1926. The number of deposits during the year was 8,054 and the amount deposited £E. 30,087; 4,142 withdrawals amounting to £E. 23,875 were made. At the end of the year there were 4,044 depositors with £E. 35,253 standing to their credit, an average balance of £E. 8·717 mms. per depositor, as compared with an average balance of £E. 8·112 mms. per depositor in 1926; £E. 665 was credited as dividend at the rate of $2\frac{1}{2}$ per cent., and the dividend was waived in four cases by Mahometan depositors.

253. Quinine tabloids are purchasable at Sudan post offices, and the sale in 1927 increased by over 13 per cent.

Telegraphs.

254. The El Obeid–Talodi telegraph line, referred to in last year's report, was completed during the year. This now provides an alternative land-line between Khartum and Malakal. A sixth wire was added to the existing route between Abu Hamed and Wadi Halfa, and a survey of this route was made in connexion with its proposed overhaul in 1928. An eighth wire was added to the Khartum–Wad Medani line during the year by the Sudan Government Railways, and this has appreciably relieved the congestion of traffic on this part of the system. A new telegraph line Abu Zabad–Nahud–El Odaiya is in course of construction. Work is in hand on the overhaul of the Khartum–Atbara telegraph line (193 miles) and the Khartum–Jebelein line (243 miles). The Melut cable, referred to in last year's report, was replaced by two new cables. General maintenance work was carried out as usual, and the line along the railway north of Khartum was kept under continual observation by a travelling inspector. Special surveys of the El Obeid–Bara and Sallom–Suakin lines were also carried out.

255. In 1927, 789,769 telegrams were dealt with, as compared with 762.325 in 1926, an increase of 27,444, or 3·6 per cent. This was mainly due to the increase in private inland telegrams of 19,342.

Official telegrams showed an increase in number of 5,911. The total revenue earned was £E. 67,927, as against £E. 71,302 in 1926, a decrease of £E. 3,375.

Wireless Service.

256. Temporary wireless stations were opened at Zalingei and Kebkebia, and stores are on order for the establishment of permanent stations at these places. Temporary wireless stations were erected on the steamers "Gedid" and "Omdurman" in connexion with the military operations in the Upper Nile Province. Mobile wireless sets received during the year were also used on these operations. A new site for Khartum wireless station has been selected, and the buildings are nearing completion; the transmitters will be controlled from the new general post office, where the receivers will be installed. Installations were made at Kassala, El Obeid, Malakal and Mongalla to improve or replace previous installations, and a 6-kilowatt valve transmitter ordered for Malakal has been diverted to provide a second transmitter for Khartum. Renewals, maintenance and experimental work was carried out during the year. The number of inland messages transmitted during the year was 22,435, as against 21,518 in 1926. The Port Sudan radio dealt with 7,520 messages for ship service, as compared with 6,938 in 1926; it also dealt with 2,338 messages to and from Jeddah during cable interruptions, as against 3,772 in the previous year.

Telephone Service.

257. During the year fifty-one direct and twenty-eight extension connexions were made, and 6·3 miles of underground cable with a wire mileage of 559 were laid in Khartum, Port Sudan and Omdurman. A number of telephone installations have been superimposed on telegraph circuits, and telephone communication between Malakal, Tonga and Talodi is now available. The limit of distance for satisfactory conversation over existing telegraph lines is about 120 miles. In the Gezira canalised area twenty-nine connexions, 142 miles of wire and 43 miles of pole route were added during the year, and various additions and improvements were effected to exchanges in the system. The reconstruction of the lines of the original canalised area was carried out during the year, and practically the whole of the aerial system was rebuilt during the same period.

258. Subscribers totalled 874 as against 795 in 1926, and revenue increased from £E. 7,223 to £E. 8,373.

Chapter VII.—Irrigation.

259. The Sennar Dam and Gezira canal system continued to function successfully. In 1926–27 the full area of 300,000 acres

was irrigated for the first time, the figures, as compared with the previous season, being as follows :—

	Area in acres. 1925–26.	1926–27.
Cotton	80,000	100,000
Lubia beans	9,000	49,000
Grain	36,000	50,000
Total	125,000	199,000

260. Progress was made with works required to complete the initial instalment of the scheme which, from motives of economy and lack of urgency, had been omitted from the original construction contract. These chiefly comprised housing for staff, provision of falls on the escapes, and raising banks of minor canals to meet the night storage conditions.

261. Good progress was made with the work of extending the irrigated area in accordance with the arrangements referred to in paragraph 84 of last year's review. In the last days of 1926 doubts were cast on the suitability of the land lying to the north of the present area to which it was proposed to extend irrigation. After full consideration it was decided to complete about one-third of the projected area in the north, and to make good the remaining two-thirds by an extension to the west. This change of plan naturally caused considerable dislocation to the work of the Irrigation Department. By the employment of additional staff the lost ground is, however, being regained, and it is now anticipated that the total area comprised in the syndicate's agreement will have been increased to 450,000 acres by July 1929.

262. An important development during the year was the decision to proceed at once with the construction of an apron for a length of about one-third of the dam. It had always been recognised that sooner or later this work would be necessary to protect the foundations; and since the completion of the dam the conditions have been closely studied. Professional advice made it clear that further delay would be unwise. Arrangements were therefore made to put the work in hand with a view to completion before the 1928 flood.

Chapter VIII.—Agriculture and Forests.

Food Crops.

263. The situation as regards food crops at the beginning of the year was that insufficient rains in 1925 in the Central and Northern Sudan, followed by poor rains in 1926, had led to a serious shortage of grain and fodder, particularly in the north, with resulting high prices for the staple articles of food. Fortunately the 1926 Nile flood was comparatively good, and the returns from land so inundated provided some compensation for riverain cultivators. The position was further eased by the fact that in the Gezira scheme the dura and lubia crops produced some 200,000

ardebs of grain and 60,000 ardebs of beans in addition to a large supply of fodder. At a time when the rain crops have failed this assured supply of grain and forage is a tremendous boon to natives and live-stock in the surrounding country.

264. The pumping schemes erected on the Nile by Government and private enterprise again proved their value in tiding over a period of shortage in grain and fodder.

265. In the south the 1926 rains were better, and a considerable quantity of grain was exported from the Nuba Mountains and Upper Nile Provinces to the north.

266. Fortunately the 1927 rains were moderately good in the Northern and Central Sudan, and fairly well distributed. In particular areas, partly owing to lack of the later rains, and partly owing to locusts, the earlier promise of food crops was not fulfilled; but on the whole a fair grain crop was secured, sufficient to fill the empty granaries and allay any fear of shortage. The fodder situation was good, and improvement in the condition of live-stock has been very marked.

267. In the south the 1927 rains have been exceptionally poor.

268. The following table shows the areas and estimated yields of the principal food crops, excluding the Provinces of Darfur, Upper Nile, Mongalla and Bahr-el-Ghazal, for which figures are not available :—

Crop.	Area in acres.	Estimated yield in tons.
Dura	1,128,536	289,897
Dukhn	457,875	69,301
Sesame	87,813	21,353
Ground nuts	29,698	5,181
Wheat	29,573	12,599
Maize	20,521	9,013
Barley	10,319	6,107
Beans	970	480

Cotton.

269. Cotton is the most important export crop, and the following gives in acres the approximate areas under cotton for the past two years :—

Year.	Rain Land.	Artificial Irrigation.	Flood Land.	Total.
1925–26	47,131	106,681	30,453	184,265
1926–27	40,402	122,152	55,990	218,544

For the same period the total output in kantars of Sakellarides and American cotton has been as follows :—

Year.	Sakel.	American.	Total.
1925–26 ...	425,653	82,954	508,607
1926–27 ...	569,361	64,095	633,456

270. The total Sakellarides crop for 1926–27 and average per acre from the different cotton-growing areas were as follows :—

	Total crop acres.	Kantars per acre.
Gezira	477,272	4·77
Tokar	32,100	1·60
Kassala	54,129	2·07

Gezira Irrigation Scheme.

271. The Gezira irrigation scheme again had a very successful year. The total area planted with cotton for 1926–27 was 100,057 acres and the average yield 4·77 kantars per acre. The cotton was remarkably free from pests, and good prices were obtained. In addition, 50,188 acres of grain and 50,000 acres of lubia bean were grown, which gave an estimated return of 200,000 and 60,000 ardebs respectively; there was in addition a large amount of fodder.

272. The scheme is decidedly popular with the native cultivators, and the demand for holdings importunate. Apart from the secure position of allottees inside the area the scheme is of great benefit to the surrounding country, more especially in years of poor rainfall and scarcity. During the picking season it is estimated that some 60,000 to 70,000 additional pickers were required, and these were attracted mainly from districts adjacent to the scheme, and in particular from the While Nile Province, whose inhabitants and herds were, in fact, thereby saved from famine.

273. The main canal was closed on the 10th April, and during the close season drinking water was supplied from Wad-el-Nau and Hag Abdulla pumps. The main canal was opened on the 19th July. The emptying of the dam reservoir began on the 1st February and was speeded up after the 11th March. Filling of the dam began on the 15th July: it was maintained at the 417·20 level till the 27th October. Subsequent to this the level was gradually raised to 420·70 full level on the 1st December.

274. Experiments have shown a decided increase in the cotton return where live-stock have grazed on the land and where artificial nitrogenous manures have been applied. The natural tendency of natives to increase the numbers of their live-stock is therefore being encouraged, and a field trial with nitrogenous manures on a fairly large scale is being put in hand; 10,000 acres of the cotton area will be treated with 2 cwt. of sulphate of ammonia per acre.

275. The prospects for the 1927–28 season are not so favourable. The total area planted with cotton is 105,587 acres and the total yield is estimated at not more than 360,000 kantars. Blackarm has done much damage, and "sooty mould" (*cladosporium sp.*) is suspected of being harmful. Apart from

these pests, the season has been unfavourable climatically. On the other hand, the estimated food crops for 1927–28 from the irrigated area are again put at 200,000 ardebs of dura and 60,000 of lubia bean.

Tokar.

276. The Baraka flood at Tokar for 1926–27 was up to average. About 20,000 acres were watered and gave a total return of 32,100 kantars of cotton, or 1·60 kantars per acre. The crop was sold, as usual, by local auction, and fair prices were obtained. The 1927–28 flood was good. About 60,000 acres were watered, of which about 45,000 acres will be sown for cotton. Some damage was caused by late flushes, resulting in 12,000 acres of cotton being washed away; these were resown. The estimated cotton yield for the 1927–28 season is 50,000 kantars.

277. An interesting experiment is being carried out in the issue of cash loans to groups of small cultivators under the Tokar co-operative credits scheme. So far this seems to be working satisfactorily.

278. Tokar is assuming very considerable importance as a source of seed for the Gezira scheme. For the coming season 8,000 ardebs of Tokar seed have been requisitioned for the Gezira.

Kassala.

279. The management of the Gash irrigation and cultivation was carried on by the Kassala Cotton Company for the season 1926–27. The Gash flood was very good: 26,100 acres were planted with cotton, which produced 54,129 kantars. In addition, an estimated 25,000 ardebs of dura were reaped from the flooded area. Further progress was made in the construction of canals and in the watering of well areas. Well boring was continued to augment the supply of drinking water to be carried by pipe-line to waterless areas in the scheme.

280. Prospects for the 1927–28 season (which will be under Government management) are again good. The area to be planted with cotton is 25,840 acres, and the estimated yield 53,000 kantars. Negotiations were concluded during the year for the return of the concession to Government, and for the transfer of the Kassala Cotton Company to a block of land in the Gezira.

Northern Rain-Cotton.

281. In the case of cotton grown as a rain crop in the Kassala, Fung, Blue Nile, White Nile and Kordofan Provinces, Government activity is confined to the supply of seed and the provision of ginning facilities at Makwar. The cost of the seed is recovered by a seed levy on the cotton produced. Owing to poor rains there has been a considerable loss which it is hoped to reduce in the future by a more accurate forecast and more sparing issues.

282. The following table shows the output of northern rain-cotton for the past few years in small kantars (of 100 lbs.) seed cotton :—

——	1923–24.	1924–25.	1925–26.	1926–27.	Estimated 1927–28.
Kassala	4,851	27,729	30,000	969	1,500
Fung	14,997	16,648	11,970	760	...
Blue Nile	17,325	37,198	10,000	1,591	800
White Nile	939	4,141	10,306	94	...
Kordofan	350	2,986	2,140	783	400
Total	38,462	88,702	64,416	4,197	2,700

The marketing of the crop has been left to private enterprise save in occasional instances, when, owing to lack of demand, a price has been offered by Government to keep the industry in being.

283. Now that the granaries have been filled as a resu't of the 1927 rains, and with the advent of the railway to Gedaref, it is expected that cultivators will again turn to rain-cotton, but it is evident that in particular areas sesame is finding favour as an alternative money crop.

Southern Rain-Cotton.

284. In the case of cotton grown in the Upper Nile, Nuba Mountains, Mongalla, and Bahr-el-Ghazal Provinces, Government provides the seed, supervises the cultivation, and purchases the crop when picked. To promote the industry, ginning factories have been erected at Talodi and Kadugli in the Nuba Mountains, and at Torit in Mongalla Province, whilst three small factories at Yei, Meridi and Shukoli in the latter province are in process of erection. These factories deal with cotton grown at a considerable distance from river ports and thereby cheapen the cost of transport. Cotton from the riverain areas of the Upper Nile and Bahr-el-Ghazal continues for the present to be sent for ginning to Makwar.

285. Good progress has been made in the Nuba Mountains Province, whilst prospects are fair in other provinces. Apart from the economic value of creating an export from these more or less unproductive areas, the introduction of this industry will have a civilising effect on the population.

286. The following table gives the output of seed cotton in small kantars :—

——	1924–25.	1925–26.	1926–27.	1927–28. (Estimated.)
Upper Nile...	4,122	9,954	10,763	4,200
Nuba Mountains	461	9,808	26,573	44,000
Mongalla	846	15,987	17,386	6,700
Bahr-el-Ghazal	238	4,818	5,448	5,125
Totals	5,667	40,567	60,170	60,025

287. The earlier estimates for the 1927–28 crop were considerably higher, but owing to poor rains in Mongalla and the Upper Nile they were reduced.

Research.

288. At the Central Research Farm and the Gezira Research Farm a large amount of valuable work has been carried out, of which complete reports are being published. At the former station the Government plant breeder is working towards fixing a strain of early maturing dura for areas of light rainfall and a variety of American cotton combining length of staple with early maturity for rain-land. His work, if successful, will be of great practical value. Similarly, the work of the Government botanist in tracing the incidence of blackarm in cotton in relation to the soil temperature has a direct practical bearing on the time of sowing and on seed supply.

289. At the Gezira Research Farm the investigations carried out by the chief inspector in connexion with manures and water economy are of great importance.

290. For the improvement of live-stock the nucleus of a native herd has been collected and breeding experiments begun.

Pests.

291. Locusts did considerable damage to grain crops in localised areas, more particularly in Kassala, Khartum, Berber and Red Sea Provinces. "Andat" (*agnoscelus versicolor*) did considerable damage to the dura crop in Rufaa and Wad Medani districts of the Blue Nile Privince. "Gaboora" (*acridiidae*) did some damage to young cotton in Kassala. Stem-borer (*sesamia cretica*) did much damage to dura on riverain land in the White Nile. Sudan bollworm (*diparopsis castanea*) did considerable damage at Genditttu, where it threatens to become a major pest, and caused damage elsewhere. Egyptian bollworm (*Earias insulana*) and pink bollworm (*tlatyedra gossypiella*) were also in evidence on cotton, more especially on pumping schemes. Blackarm (*bacterium malvacearum*) has been much in evidence on cotton and is one of the most serious, if not the most serious, of the pests with which we have to contend. "Sooty mould" (*cladosporium sp.*) did considerable damage to "lubia," and later spread to cotton in the Gezira scheme.

Berber and Dongola Pumping Schemes.

292. The area and yield of crops for the seven Government pumps were as follows:—

	Acres.	Yield.
Cotton	5,231	15,032 kantars
Wheat	1,696	7,955 ardebs
Dura and maize ...	3,220	15,093 ardebs

293. The average yield of cotton at 2·87 kantars per acre was the second lowest since the commencement of cotton growing, and

compares badly with an average of 4·45 kantars in the previous season. The cotton crop was sold as usual by tender at Atbara, but prices were low. Pests did a great deal of damage, especially Sudan bollworm at Gendittu, whilst blackarm was in evidence, more or less, on all stations.

294. The variations in prices received by native cultivators on these pumping schemes over a series of years are shown follows :—

	P.T. per kantar.
1920–21	403
1921–22	330
1922–23	443
1923–24	698
1924–25	557
1925–26	315
1926–27	281

Owing to the low price of cotton and the scarcity of food crops there has been a decrease in the output of cotton cultivated by water-wheel and on river land which is handled in conjunction with the pumping schemes. Cotton prospects on Government pumping schemes for the coming season are below average in Berber Province, but reports from Dongola indicate a good crop. In Berber bollworm has done severe damage.

295. A 14-inch pump was erected at Dueim (White Nile) and is now running. At Kulud, in Dongola Province, a new pumping scheme was completed to serve a somewhat destitute area, and is now in operation.

Coffee.

296. A study is being made of the possibilities of growing coffee in Mongalla Province. Seed has been imported from Uganda, and nurseries have been started on a small scale. The prospects cannot yet be accurately forecasted, but the outlook is promising. There are several areas of wild coffee in this province which are being exploited on a small scale.

Sesame.

297. Sesame, apart from its value as a food crop, appears to be finding favour as a money crop, and will probably repay increased attention. This is a crop which appeals to the native cultivator, and in areas of moderate rainfall will compete with cotton on present prices.

Jebel Aulia.

298. During the year considerable progress has been made in examination of the areas which will be inundated by the proposed Jebel Aulia Dam, and possible means of compensation studied.

Forestry.

299. Increased demands for fuel and timber on the Gezira scheme, especially in the north, drew attention to the lack of available supplies, and a resurvey of the forests between Kamlin and Makwar has been carried out. This has shown that intensive action is needed in the area between Kamlin and Wad Medani, and schemes for forming plantations are under consideration.

300. The supply of wood fuel to steamers on the White Nile continues a heavy drain on the accessible forests, but the demands show no increase. Further areas have been planted which, it is hoped, will in time ease the situation. The "sunt" plantations made in the Upper White Nile in the past few years show rather better promise than was anticipated. Further areas are being laid down, but the great difficulty lies in obtaining sufficient labour. This is required at the time when natives are busy planting and weeding their food crops, which they cannot neglect. Governors and district commissioners are co-operating in finding a means of overcoming this difficulty.

Gum.

301. The survey of the gum forests in Kordofan, Darfur and Nuba Mountains Provinces has been continued, and when complete should be of great assistance in deciding the policy to be followed.

302. The export of gum in 1927 was 21,239 tons, valued at £E. 680,887, which compares with 22,744 tons, valued at £E. 844,118, in the previous year. The revenue in royalties was £E. 159,806. The quantity exported was higher than the average of the last few years, but lower prices ruled. Light rains, followed by poor food crops, again forced the natives to exploit their gum resources to the full. The quantities from Darfur decreased 91 per cent. from the previous year. The quarantine regulations which had to be enforced as a result of the outbreak of relapsing fever were a contributory cause of the decrease, but it was mainly attributable to the uneconomic price obtainable at Nahud and El Obeid.

303. The output of "talh" gum from Kassala and Fung Provinces at 708 tons showed a small increase of 26 tons. In these provinces there are large areas of "talh" gum unexploited which, with the provision of wells and reservoirs and the arrival of the railway at Gedaref, may soon be developed. Auction markets were started in the Fung Province on the lines of those held in Kordofan.

304. The yield statistics obtained from the Um Ruaba gum plantation show that the gum tree reaches its prime at nine years.

Fuel.

305. Requisitions for steamers on the White and Blue Niles amounting to 118,000 cubic metres were met. Government Departments in Khartum were supplied with 4,000 cubic metres; 84,000 cubic metres were cut under licence, and royalties totalling £E. 8,400 were paid thereon.

Timber.

306. Apart from the use of small timber in the round, all wood for building material is imported. Royalty on timber cut by licencees amounted to some £E. 1,400. The small demand for mahogany and other timbers from the Bahr-el-Ghazal for furniture making is showing a slight increase, and some difficulty was experienced in holding sufficient stock.

Minor Produce.

307. The export of dom nuts was 5,831 tons, valued at £E. 29,320, as compared with 6,018 tons, valued at £E. 50,959, in the previous year—a slight decline in quantity, but a heavy fall in value.

308. The demand for the pods of "sunt" (*acacia arabica*) as a tanning agent appears to be increasing. Apart from a considerable quantity used locally, 1,420 tons, valued at £E. 9,724, was exported in 1927, mainly to Egypt. This was an increase of 328 tons over 1926.

Chapter IX.—Veterinary.

309. As a result of two years of poor rainfall, the adverse conditions referred to in last year's report in regard to grazing and water obtained in a somewhat greater degree during the first half of the year throughout the Northern and Central Sudan. The consequent congestion of stock in areas possessing permanent water supplies favoured the spread of contagious and infectious diseases, and heavy losses were again recorded in cattle, chiefly from rinderpest; 70 per cent. of the losses due to this disease occurred in the first half of the year; after the rains broke the position steadily improved. Wherever possible anti-rinderpest serum was used to reduce losses, and 10,500 doses were issued for this purpose.

310. Outbreaks of contagious bovine pleuro-pneumonia threatened at one time to assume serious proportions, but the total losses from this disease, although greater than in 1926, were considerably less than in 1924 or 1925. In dealing with the various outbreaks, over 9,000 doses of vaccine were used, as compared with over 4,000 in 1926. No outbreaks of foot-and-mouth disease or anthrax occurred during the year. It is gratifying to note that cattle owners generally are showing more appreciation of the efforts made to assist them in controlling stock diseases.

311. Losses in camels from trypanosomiasis were not abnormal, but mange was very prevalent in certain areas.

312. Heavy losses from horse-sickness were experienced in some districts, and with one exception these were associated with an abnormally heavy rainfall. Fewer cases of equine epizootic lymphangitis occurred than in the previous year, and no serious losses from any cause were reported in sheep or goats.

313. Small and apparently isolated outbreaks of rabies occurred in the Western and South-Western Sudan. In each case the

preventive measures adopted were successful in controlling the spread of the disease.

314. There was a further decline in the exports of cattle and sheep, accompanied by a corresponding decline in the number of cattle imported. Export of camels, on the other hand, increased, and a further marked increase in the quantities of hides and skins shipped was recorded.

315. The horse-breeding operations which are being carried out in the Western Sudan continued to make marked and rapid progress.

316. Considerable attention has been devoted to the utilisation of live-stock in connexion with cotton production in the Gezira irrigated area, and satisfactory progress is being made in this direction.

317. Experiments conducted at the Veterinary Research Laboratory in connexion with the diagnosis and treatment of camel trypanosomiasis and the immunisation of cattle against contagious bovine pleuro-pneumonia gave results of considerable practical value.

Chapter X.—Justice.

318. During the year 1927 the administration of justice followed its normal course, and was not remarkable for any change or abnormal development. But it was nevertheless a year of great importance to the judicial system by reason of its provisions for the future. The first step in giving a constitutional basis to native administration was to legalise and extend the customary jurisdiction of existing and potential native authorities. This has been done tentatively by the Powers of Nomad Sheikhs Ordinance referred to in last year's report, and the Village Courts Ordinance, but in the early months of 1927 a comprehensive ordinance was discussed and drafted, and was promulgated in August as "The Powers of Sheikhs Ordinance, 1927." The courts to be instituted by this ordinance form part of the native administration rather than of the judicial system, and they will not impinge to any appreciable extent on the work of the existing courts, except to relieve the administrative officers of a mass of minor crimes and petty disputes which hitherto they have had to try sitting as magistrates or district judges.

319. Native notables continue to serve with distinction as members of major and minor courts, and akin to this development is the increasing tendency to make sentences consonant with native ideas and customs, wherever this is possible with due regard to public security and the deterrent effect of punishment.

320. In quite another direction the year has been one of preparation. The Civil Justices Ordinance, the Courts Ordinance, 1915, and all other ordinances, orders and rules relating to the administration of justice in the civil courts have been revised by the chief justice in consultation with the law officers and the judges. This will enable a comprehensive ordinance covering the whole of this ground to be enacted in 1928.

Criminal Courts.

321. Last year the number of persons convicted by summary courts advanced by 5,000 over the previous year; there is a further advance in 1927 of 4,000. The increase is distributed fairly evenly over the provinces except in Darfur, Dongola and Kassala, where there is a decrease of convictions, and in the Upper Nile, where there is more than 100 per cent. increase. It is difficult to say to what cause this increase may be attributed, but it is worth noting that there were 333 convictions under the Public Health Ordinance in Fung Province, practically all in Singa town.

322. Cases of serious crime increased from 2,186 to 2,357, the increase occurring principally in Blue Nile, Kordofan and Nuba Mountains Provinces. This increase is mainly attributable to the influx of strangers into the Gezira irrigated area; to the greater readiness of the people to assist in bringing offenders to justice and in refraining from screening offenders or obstructing their arrest; and to the fact that it is the detection and punishment of crime which has increased rather than crime itself. In Berber Province serious cases decreased from 103 to 49, and in the White Nile Province from 224 to 169.

323. Convictions for murder remain about the same at 78, but convictions for less serious homicide have increased from 76 to 130. No death sentence has been passed on a woman for the last two years.

324. The problem of how best to deal with juvenile delinquency in the larger towns was considered by the council during the course of the year, and it was decided to make special enquiries into the advisability and possibility of inaugurating the proper reformatory system. Captain R. F. E. Laidlaw was specially detailed for this purpose, and through the kind offices of the Reformatory Department of the Home Office and of the Egyptian Prisons Administration facilities were given to him for the study on the spot of the various systems in force in England and in Egypt. As a result a valuable and interesting report has been rendered and the question of the applicability of the various measures recommended, their cost, and ways and means of carrying them out, will receive further consideration by the council during the course of the coming year.

Civil Courts.

325. The total number of civil suits heard in the year was 14,143 as against 13,127 in 1926. The places in which the increase is most marked are the Blue Nile, Red Sea and Kordofan Provinces, and the Kosti and Tendelti districts of the White Nile Province. These are places in which commerce is active, and there is no special significance in the figures. The number of cases heard by the Khartum courts has slightly decreased. The fees collected by civil courts show an increase from £E. 9,686 to £E. 10,310.

326. The number of appeals dealt with by the Court of Appeal shows a slight increase. The number of Appeal Court appeals was 77, the same as in 1926; 45 applications for leave to appeal were refused; 28 appeals were decided as against 26 in 1926. Having regard to the facilities given for appeal and to the fact that there is some difficulty in forming a Court of Appeal for six months in the year during the leave season, the time taken from the institution of a suit to its final conclusion is reasonably short.

Bankruptcies.

327. Although the year was notoriously a difficult one for traders, only 5 debtors' and 3 creditors' petitions were presented. There were in addition 18 cases standing over from the previous year. Of the total, 5 were withdrawn, 3 were completed by composition after bankruptcy, 9 were liquidated, and 2 were dismissed, leaving 7 cases pending at the end of the year. The new Bankruptcy Ordinance referred to in last year's report has been drafted, and it is hoped to bring it into force in 1928.

Legislation.

328. Twelve ordinances have been passed in 1927, namely:—

(1.) The Traders' Licence and Taxation of Business Profits (Amendment) Ordinance, 1927.
(2.) The Local Taxation (Amendment) Ordinance, 1927.
(3.) The Taxation of Animals (Amendment) Ordinance, 1927.
(4.) The Code of Criminal Procedure (Amendment) Ordinance, 1927.
(5.) The Officials' Discipline Ordinance, 1927.
(6.) The Gezira Land Ordinance, 1927.
(7.) The Education (Non-Government Schools) Ordinance, 1927.
(8.) The Powers of Sheikhs Ordinance, 1927.
(9.) The Preservation of Wild Animals Ordinance, 1927.
(10.) The Radif Ordinance, 1927.
(11.) The Sudan Defence Force Native Officers' Pension Ordinance, 1927.
(12.) The Sudan Government Pension Ordinance, 1927.

329. The first annual supplement to the Revised Edition of the Laws of the Sudan, containing the new legislation from the 1st June, 1926, to the 31st December, 1926, has been compiled and issued.

Administration of Estates.

330. Statistics of estates of deceased non-Mahometans which, in the absence of any representative in the country, were

administered by the Administrator-General are shown in the following table :—

	Number of estates.	Estimated gross value of assets. £E.
(1.) Estates under administration and uncompleted on the 1st January, 1927	32	10,215
(2.) Estates administered but not claimed	4	290
(3.) Estates under administration but not valued or included in previous return	1	15
	37	10,520
(4.) New estates taken under administration during 1927	40	5,017
(5.) New estates, notice of which has been received but value unascertained on the 31st December, 1927	3	...
	80	15,537
(6.) Administrations completed during 1927, and balances paid to heirs and next-of-kin	29	4,726
(7.) Administrations completed and balances transferred to unclaimed deposits	13	58
	42	4,784
(8.) Estates administered but awaiting to be claimed by next-of-kin ...	1	34
(9.) Estates in which the administration is still in hand	37	10,719
	80	15,537
(10.) High Court fees paid on completed and partially completed estates during 1927	...	80·400 m/ms.
(11.) Fees charged and collected by the Administrator-General upon completed and partially completed estates during 1927	...	147·410 m/ms.

Non-Mahometan Marriages.

331. There has been an increase in the number of marriages registered during 1927, which total 127. For the past ten years the average number of marriages registered every year was fifty-six. The increase for 1927 is largely attributable to the number of marriages which are being registered by the Roman Catholic

mission stations in Mongalla Province. During the period covered by this report the following marriages have been entered in the central marriage registers :—

(1.) Marriages performed by district registrars ...		7
(2.) Marriages celebrated by ministers of religious communities under the ordinance		11
(3.) Marriages celebrated by ministers of excepted religious communities and registered under the provisions of the Excepted Communities Marriage Regulations, 1926 :—		
Roman Catholics	49	
Greek Orthodox	33	
Coptic Orthodox	18	
Greek Catholics	8	
Israelites	1	
	—	109
		127

Two special marriage licences were granted by the Governor-General under the ordinance.

Land Registration and Land Settlement.

332. The number of deeds registered in 1927 was 8,029 as compared with 6,202 for the previous year, but the fees collected decreased from £E. 8,247 to £E. 5,746. This decrease is accounted for by the general fall in land values due to monetary depression. The shortage of staff referred to in last year's report has been remedied, with a corresponding increase in efficiency.

333. Satisfactory progress was made with the Geteina land revisory settlement, which will be completed in 1928. The Berber riverain land settlement was completed by July, and has disposed of many disputes of long standing. A settlement was also made of part of the rain lands of Kawa district. It is not anticipated that any land settlement on a large scale will be required during the next few years.

Registration of Companies.

334. The following is a statement showing the companies registered and the fees collected during 1927 under the provisions of the Companies Ordinance, 1925 :—

Number of companies registered ...	4
Total amount of nominal capital ...	£E. 81,250
Total fees collected	£E. 366

Registration of Partnerships.

335. The Registration of Partnerships Ordinance was put into effect in Khartum, Khartum North and Omdurman on the 1st April. Under the terms of this ordinance no partnership (with certain

exceptions) may commence business until it has been registered. By the end of the year eighty-four general and two limited partnerships had been registered. It is intended to apply the ordinance to other towns after the effect of registration in the above three towns has been seen.

Mahometan Law Courts.

336. As regards the work of the courts generally there has been an increase in the number of estates and "ishhads," but a decrease of 774 in the number of cases instituted, namely, 12,380 as against 13,604. The decrease occurred chiefly in Darfur and Kordofan, and is attributed to the emigration of agricultural labourers from Kordofan to the Gezira. The number of marriages and divorces by "maazuns" also shows a decrease, again very marked in Kordofan. On the other hand, prosperity in the Gezira is evinced by an increase of the marriages in all districts of the Blue Nile Province, especially that of Wad Medani. The revenue of the courts was £E. 6,684, a negligible decrease on that earned in the previous year. One hundred and six appeals were raised before the province kadis, and 223 before the High Mahkamma, an unprecedented number which the Grand Kadi cites as evidence of enlightenment among the people.

Chapter XI.—Sub-Department of Lands.

337. The number of ordinary land transactions dealt with by this sub-department shows its normal increase during the year. The policy of decentralising the routine work in connexion with these transactions makes slow progress. In furthering this policy the object is to work, so far as possible, in co-operation with the local land registries. In provinces where registries do not as yet exist, it is difficult to relax the central supervision necessitated by the lack of technical knowledge on the part of those charged with the duty of superintending the drawing and execution of the deeds by which Government transactions in lands are carried out.

338. The new scheme for the disposal of Government lands at Port Sudan has been put into force and is working admirably. One of the principal objects of the scheme is the decentralisation, with certain definite reservations, of the work of administration. This object has been attained to a gratifying extent. A scheme on similar lines is in contemplation for Wad Medani, and it is hoped, as time and opportunity allow, to revise on similar lines the system in force in other of the larger towns throughout the country. A considerable increase is to be noted in the demand for building sites at Port Sudan, which are leased on eighty-year terms, and there seems to be a very fair amount of money available for building development, especially amongst the native merchants.

339. The development of the area reserved for petroleum installations in South Town, Port Sudan, proceeds satisfactorily. The Shell Company of the Sudan (Limited) has taken up a large

site for the erection of an installation upon which the expenditure of a large sum is contemplated. Elsewhere various oil interests are studying possibilities of development, and leases have been granted at Khartum, Wad Medani and El Obeid for local installations.

340. The arrangements under which the Royal Air Force occupies landing-grounds in the Sudan have been revised and made uniform and the procedure simplified.

341. A few fresh applications to take up Government land for the purpose of pump irrigation were received during the year, and, in certain cases where land had been let on annual tenancy, cultivation was permitted for a further season.

Chapter XII.—Education.

342. Mr. E. N. Corbyn, who had been appointed Director of Education at the end of 1926, retired in October owing to ill-health. Mr. J. G. Matthew, O.B.E., recently deputy financial secretary, succeeded him, but with somewhat different functions, it having been decided that a secretariat should be created to take charge of education and health and certain other allied matters. Mr. N. R. Udal, the assistant director, was appointed warden of the Gordon College in February, this title representing more correctly the actual position which he fills as regards the college.

343. Mr. N. R. Udal and Mr. N. B. Hunter attended, in the rôle of experts lent by the Sudan Government, the Imperial Educational Conference held in London in June.

344. The following table shows the number of pupils attending schools under the control of the Department in 1926 and 1927 :—

	1926.		1927.	
	Schools.	Pupils.	Schools.	Pupils.
Gordon College Higher School...	1	303	1	370
Primary Schools	10	1,153	11	1,296
Elementary Vernacular Schools (Kuttabs)	88	8,196	82	8,057
Subsidised Native Schools (Khalwas)	293	8,422	400	13,077
Instructional Workshops... ...	3	332	3	351
Girls' Training College	1	22	1	22
Girls' Elementary Schools ...	10	555	10	694
Totals	...	18,983	...	23,867

Gordon College Higher School.

345. The numbers were increased from 303 in 1926 to 370 in 1927 as the first stage of an expansion programme which will be completed in 1929. The 370 pupils consisted of 251 of Sudanese Arab origin, 80 of mixed Egyptian and Sudanese Arab origin,

17 Berberines (natives of Halfa Province) and 22 Sudanese negroids. The expansion of the school necessitated the appointment of an additional tutor. In class work a satisfactory standard was maintained. It is gratifying to note that the Director of Accounts of the Finance Department is extremely pleased with the product of the accountants section. The improved system of clerical training is in full swing, and has been well reported on by an inspector of the Civil Department, though pupils who have had the full advantage of this clerical training will not be available until 1929. Fourteen boys completed the scientific course, of whom seven were admitted to the Kitchener School of Medicine. In order to put the day boys as far as possible on the same footing as the boarders they are now given lunch every day with the boarders and do their preparation in the college. The general tone of the college has been well maintained, and the discipline has been excellent, for which great credit is due to Mr. Udal and his staff.

346. Three Arab teachers who had been seconded to the Nigerian Government for work in Bornu for a period of three years returned in March with excellent reports from the Director of Education of the Northern Province of Nigeria. Three more teachers have been sent to Beirut for further training at the American University with a view to filling more important posts at the Gordon College on their return.

Primary Education.

347. There have been no special developments in this sphere, but the numbers and standard have been fully maintained. An innovation was made in connexion with the primary schools by the institution of free evening classes for adults, at which Arabic, arithmetic and hygiene are taught. The school teachers generously gave their services free. These classes proved very popular and were well attended.

Elementary Vernacular Education.

348. The higher elementary vernacular schools (kuttabs) were slightly reduced in number by closing some of the least well attended, but the total number of pupils remains practically the same. The subsidised village schools (khalwas), referred to in last year's report, have again greatly increased in numbers, there being 400 compared with 293 in 1926. The number of pupils has risen from 8,422 to 13,077. This form of elementary vernacular education, which is carried out on native lines by fikis, who receive a course of instruction, and whose work is regularly inspected by officials of the Education Department, is the best means of spreading a modicum of education among the masses of the people. It is extremely popular, and the constant demand for more of these subsidised khalwas is severely taxing the Department's resources in respect of training and inspecting staff.

Technical Education.

349. Small classes for tinsmiths and blacksmiths were started as an experiment in the Omdurman workshops. The carpentry workshops at the Gordon College continue to turn out well-trained boys, who are readily absorbed. The instructional workshops at Atbara under the Sudan Government Railways and Steamers are most successful, and the well-organised boarding house attached to these workshops plays no small part in the satisfactory results that are obtained.

Scouting.

350. Mr. N. R. Udal was appointed Chief Commissioner *vice* Mr. J. W. Crowfoot, and Mr. E. A. V. de Candole succeeded to the post of Deputy Commissioner. Their zeal is unabated, and the movement is spreading rapidly. There are now twenty-five troops in all, including one at every primary school, and the number of scouts is 870.

Girls' Education.

351. No new schools were opened, but the numbers of girls attending existing schools rose from 555 in 1926 to 694 in 1927. There is an increasing demand for education for girls from many quarters, and no small part of the time of Miss J. D. Evans, the principal of the girls' training college in Omdurman, is spent in travelling on inspection duty, during which she investigates the possibilities of starting new schools. To her and to Miss D. Evans, the assistant principal, the greatest credit is due for the high standard of native teachers turned out from the training college at Omdurman.

Education in the Southern Sudan.

352. Considerable progress has been made in this sphere, and during the latter half of the year an additional educational inspector, Mr. A. G. Hickson, was appointed to assist Mr. Hunter. The present policy is, broadly speaking, one of co-operation between Government and missions in the conduct of two types of schools for boys, namely, elementary vernacular schools with a four-year course, and a limited number of intermediate schools with a six-year course, in which English is the language of instruction. The number of boys proceeding from elementary schools to intermediate schools is likely to be for the present about 12 per cent. of the output of the former. The missions receive a block grant from Government in respect of each school subject to certain conditions. A large number of schools are now following a definite syllabus. The curriculum of the elementary vernacular schools is simple and practical and adapted as far as possible to the actual needs of the people. The intermediate school curriculum aims at producing teachers, clerks, &c. At all schools the majority of the boys are boarders, and wherever possible they

cultivate the land mainly for the production of their own food. There are a few girls' schools, and attention is now being paid to this branch of education. The Stack Memorial School at Wau, which is directly controlled by the Government's educational staff and carries on boys after they have spent three years at the Catholic mission school, was formally opened by Major M. J. Wheatley, Governor of the Bahr-el-Ghazal Province, on the 15th December.

353. The problem presented by the infinite variety of local languages and their orthography has been a matter for serious consideration during the past year, and a detailed *questionnaire* has been circulated to all mission stations to collect material for discussion at a language conference which is to be held in Mongalla Province in 1928.

Geological Survey.

354. Mr. G. W. Grabham, Government geologist, and Mr. Colchester, his assistant, have been principally engaged on questions of water supply in Kassala, the White Nile, Kordofan and Darfur Provinces. Drilling for water has been carried out by the Public Works Department, the Sudan Government Railways and the Kassala Cotton Company, and a series of samples from the bore holes have been received for examination and report. Many questions relating to the excavation and clearance of storage tanks and pools have been dealt with. The satisfactory results, following good rains, proved the immense value of this method of improving water supplies.

355. Parts of the Gezira over which the irrigation scheme may be extended were studied. Attention was also devoted to salt works near Suakin, building-stone in the Gezira, brick-earths, limestone in Darfur, &c.

Wellcome Tropical Research Laboratories.

356. Major R. G. Archibald, C.M.G., D.S.O., the director, reports that the work in all the sections has increased in variety and magnitude, and although the routine examinations have been heavy, it has been possible, with the aid of additional staff, to continue research investigations on various problems. Increased accommodation is required but will not be forthcoming until the medical research laboratories, now in process of erection, are occupied. The end of the year saw the completion of the railway laboratory car, built by a grant from the Lee Stack Indemnity Fund. The car is proving most serviceable to all sections of the laboratories.

357. Members of the staff continue to lecture at the Kitchener School of Medicine on the following subjects: chemistry, physics, biology, physiology, pathology and bacteriology, while laboratory demonstrations have been given by the laboratory assistants of the bacteriological section. At the request of the director of the Medical Service, a number of Sudanese have been

trained in elementary laboratory work and also as mollusc collectors for bilharzia work in the Gezira. The province laboratories continue to carry out useful investigations. The Gezira laboratory, comprising chemical and entomological sections, has been fully occupied with the various problems affecting cotton and other crops in the Gezira. The Atbara laboratory is carrying out investigations on behalf of the railway department. Work in the Genditttu laboratory has concentrated mainly on the Sudan bollworm and pest control measures for the department of agriculture.

Bacteriological Section.

358. The retirement of Major Whitehead has been a great loss to the bacteriological section, whose work has increased considerably. The number of routine examinations carried out reached the record figure of 9,280. Vaccines have been prepared and issued on a large scale. It is gratifying to note that the method of preparation of anti-rabic vaccine instituted last year has invariably given satisfactory results. The following doses of vaccine were prepared and issued during the last twelve months :—

Typhoid-paratyphoid vaccine	11,145
Anti-rabic vaccine	7,290
Cholera	4,000
Gonococcal and other vaccines	1,050

Kahn's precipitation test for syphilis has given satisfactory results, and 1,457 tests were carried out. The increase of routine work and the numerous lectures given by the medical staff at the medical school have considerably interfered with research work. Dr. Horgan, who succeeded Major Whitehead, has been investigating the bacteriophage of bacillary dysentery and the blood sugar in animal trypanosomiasis. Dr. Davis has been experimenting with various trypanocidal agents for the treatment of trypanosomiasis. Investigations on bilharzia have been continued mainly in the direction of anti-mollusc measures; it is satisfactory to note they have proved very successful in the Gezira. Investigations on blackarm disease of cotton have been continued in conjunction with the Government botanist.

Chemical Section.

359. The number of samples received for examination totalled 29,397, of which 8,989 were examined in Khartum, 19,297 in the Gezira laboratory, and 1,111 in Atbara. The greater part of these represent soil examinations. In the Khartum laboratory soil investigations have been carried out under the following headings: the mechanical analysis of soils, the composition of soils and clays, moisture equivalent, soil colloids, capillary rise, experiments on pure silica and clay, experiments on replaceable

bases, effect of sulphur on alkaline soils, cause of the grey colour in Gezira soil. Field experiments at Shambat in conjunction with the Government botanist have been continued and include dates of application of ammonium sulphate, seasonal variation of nitrate content and the use of sulphur as a fertiliser.

360. An extensive soil survey in the northern area of the Gezira added considerably to the work of the Gezira laboratory, where investigations have been carried out on the variation of salt content on drying, the vertical movement of salt under irrigation, relation between salt content and crop yield, flooding as a test of permeability, effect of gypsum on permeability, soil swelling and variations of nitrate content. One important point has emerged from the investigations, viz., the effect of gypsum in improving the permeability of the soil. The results obtained favour the view that even the most refractory soils in the Gezira can be improved by the use of gypsum. In the Atbara laboratory, in addition to numerous water examinations, useful work has been carried out on the causes and prevention of priming boilers, water softening, and determinations of the caloric value of fuel.

Entomological Section.

361. The greater part of the time of this section has been spent in organising and carrying out control measures against various pests such as the migratory locust (*schistocerca gregaria*), the dura "andat" (*agonoscelus versicolor*), the pink bollworm (*pectinophora gossypiella*), and the cotton stemborer (*sphenoptera gossypi*). Investigations have also been carried out on the bionomics of the tsetse fly (*G. morsitans*) in the Nuba Mountains, the cotton thrips (*heliothrups indicus*) and other insects in the Gezira. A promising line of research has been found in the study of certain indigenous parasites (*hymenoptera*) on insect pests which attack crops in the Gezira. The supervision of the sunning of 20,000 ardebs of cotton seed was again undertaken.

Antiquities Service.

362. Mr. Addison, Conservator of Antiquities, reports that no regular excavations were carried out in 1927 until December, when Dr. Reisner resumed work at Semna. The work of conserving the temples at Nagaa, carried out in 1926, has proved effective, and no further deterioration of the buildings has been observed. Only minor additions have been made to the museum collection, and the proposal to provide a new museum building has been seriously engaging the attention of the Archæological and Museums Board. Articles relating to Sudan antiquities have been published in "The Journal of Egyptian Archæology" and "Sudan Notes and Records."

Natural History Museum.

363. Mr. H. H. King, the curator, reports that the number of visitors to the museum has increased from 355 in 1926 to 381

in 1927. To the collections have been added 641 bird skins, 129 mammal skins, 23 snakes and 7 lizards; 118 specimens have been examined and determined by the British Museum (Natural History). A generous gift of £E. 150 was received from Rear-Admiral H. Lynes, C.B., R.N., who visited Khartum in July.

Missions: Church Missionary Society.

364. The Church Missionary Society has two missions at work, one in the Northern Sudan and the other in the south. In the Northern Sudan the hospital at Omdurman continues its excellent work. During the current year there were 13,632 out-patients, 793 in-patients, 531 of the total being women and children, and 214 operations were performed. In addition to the normal work of the hospital, the care of lepers, destitute and blind, and relief of the poor has been undertaken by the hospital staff. By means of a grant from the Lee Stack Indemnity Fund the accommodation at the leper colony has been greatly increased during the year by the erection of new and more suitable buildings, making provision for sixty patients. The Lee Stack Home for the Indigent and Blind is in course of construction, and when complete will accommodate fifty inmates.

365. Educational work among girls has been well maintained. Schools exist at Omdurman, Wad Medani and Atbara; 709 pupils passed through these schools during the year. In these schools a good sound education is given, consisting of four years in the lower school and five years in the primary school, with the addition of a training course for teachers. By means of this latter course the schools are now almost entirely staffed with their own girls, born, bred and educated in the Sudan. Attached to the primary schools are native elementary vernacular schools (kuttabs) run on the simplest lines. The Khartum school has been closed with a view to reopening it in the near future as a high school for elder girls of all nationalities.

366. The southern organisation consists of one intermediate and five elementary vernacular schools. At the former there are thirty-five boys and ten in a workshop attached to the school. The school is in charge of three Europeans. It has now been decided that when the move of this school from Juba, to which reference was made in last year's report, takes place, the new site should be at Rejaf and not inland as had been originally intended. The elementary vernacular schools are well attended, and provide education for some 400 boys. Dr. and Mrs. Fraser have continued to carry out excellent work at Lui, and the medical assistance given to the people in that district is much appreciated.

Sudan United Mission.

367. The field superintendent, Mr. D. N. MacDiarmid, reports good progress at Heiban in the Nuba Mountains Province, where there is an elementary vernacular school of some eighty boys. These are all boarders. Industrial work, such as carpentry and

brick-making, has also developed. Two school books in the local dialect were set up in type and printed by the schoolboys. There were 6,378 medical treatments given during the year, and a good many native villages were visited by the mission staff. The Abri station has not been so successful. The school is a small one and irregularly attended. Some medical treatment was carried out, and a large number of native villages were visited. The idea is gaining ground that this station is not well sited, and the possibility of moving it is under consideration. There is no doubt that, generally speaking, the Sudan United Mission is doing excellent work in the Nuba Mountains Province, and there are plans for extending its activities with Government co-operation. . In the Upper Nile Province at the Melut station the chief activities have been medical. The Rom station was unoccupied during the year owing to the staff being on leave.

American Mission.

368. The general secretary reports satisfactory progress. He gives the total of children undergoing training as 1,085, and the number of medical treatments given at over 31,000. The stations on the Sobat River at Doleib Hill and Nasser were inspected by the educational inspector of the southern provinces.

Catholic Mission.

369. This mission works in three spheres. The northern sphere has its headquarters at Khartum and includes the Upper Nile stations; the eastern sphere covers the Mongalla area, and the third the Bahr-el-Ghazal Province. At the Upper Nile stations considerable difficulties have been met with, but it is hoped that these are being gradually overcome, and that the schools will be more regularly attended in the future. Excellent work has been done at Wau and other stations in the Bahr-el-Ghazal, and real educational progress is being made. A new intermediate school has been opened in Eastern Mongalla. Temporary accommodation was provided at Rejaf East, but a permanent site has now been selected at Lui, an elevated inland position, about 45 miles south-east of Rejaf.

Chapter XIII.—Public Health.

370. The rains in the Central Sudan were considerably above the average, and in consequence severe epidemics of malaria occurred all over this area during the last five months of the year. The incidence of diphtheria and typhoid has increased over the greater part of the Sudan. Influenza was also general throughout the Sudan. With these exceptions the health of the Sudan has been generally good.

Epidemic Diseases: Typhoid.

371. The typhoid incidence has increased throughout the Sudan generally. The epidemic which had broken out in Omdurman

in the autumn of 1926 lasted into the spring of 1927; it died down from May to August, to reappear in the last four months of the year. The total number of cases in Omdurman during the year were eighty-six, with nine deaths. The total throughout the Sudan was 155, with thirteen deaths.

Diphtheria.

372. The diphtheria incidence has also increased throughout the Sudan generally. The disease became epidemic in Khartum and Omdurman in the latter half of the year and died down in December. There was a total of eighty-seven cases, with twenty-four deaths, in Khartum, Khartum North and Omdurman. There was also a small epidemic of this disease at Ashkeit in Halfa district in the latter three months of the year.

Small-pox.

373. Isolated cases of small-pox appeared throughout the Sudan. An epidemic outbreak of 183 cases with seventy-four deaths occurred in the Burun country in the south of the Fung Province. Up to the present practically no medical work has been carried out in this area, and as a result epidemics of small-pox and cerebro-spinal fever are frequent, and the loss of life is considerable.

Cerebro-Spinal Meningitis.

374. The Sudan was practically clear of cerebro-spinal meningitis except for an epidemic which occurred in Mongalla Province, where 410 cases were reported, with 231 deaths.

Influenza.

375. Influenza was general throughout the Sudan. Definite epidemics occurred in Nahud and Abu Zabad districts of Kordofan Province and in the eastern district of the Bahr-el-Ghazal Province.

Malaria.

376. Malaria became epidemic throughout the Central Sudan in August, but instead of terminating by the end of November, as is usually the case, the epidemic tended to persist until the end of the year. This was particularly the case in the Blue Nile Province. This unusual persistence of malaria in epidemic form was no doubt attributable to the complete absence of cold weather in December. A striking feature has been the very marked preponderance of anopheles over culex infections. In the Blue Nile Province since August over 90 per cent. of the larvæ hatched out have been anopheles.

377. In the Northern Sudan there was a large increase of malarial incidence in Berber Province, but Dongola and Halfa Provinces were not affected, being north of the rain cultivation

zone. In Khartum town only thirteen cases of malaria occurred up to the end of December. In Khartum North seven cases occurred during the same period.

378. The infections in the Blue Nile Province were nearly all of the benign type, and there was an unusual tendency to recurrence. The incidence of the disease, which was heavy, increased steadily up to the end of the year. The British element of the population were not seriously affected till well into December, at a time when mosquitoes were becoming scarce. Conditions during the rainy season in the irrigated area are aggravated by the fact that the rain falls on land which may be already saturated by irrigation and pools take much longer to dry. The fever contracted from the mosquito bred in these pools incapacitates the tenant cultivator and makes it difficult for him to bale out the small distributary canals between waterings. In this way the mosquito breeding commenced in the rain pools is continued and expanded in the field channels.

379. Until it is possible to carry out some drainage system for the removal of rain water in the irrigated area widespread mosquito breeding during the rains is bound to persist. Meanwhile, endeavours will have to be made to induce the population to bale out their field channels effectively and to encourage the use of the mosquito net and the early treatment of malaria.

380. To enable cultivators to obtain early treatment there is a dispensary for every 15,000-acre block. Large issues of quinine are made to these dispensaries before the rains. Thus every sick man in this area is within easy reach of a dispensary where he can obtain free treatment or from which he can be visited. The difficulty is to establish the habit among the native population of seeking treatment as soon as ever they are conscious of having malaria.

Relapsing Fever.

381. Relapsing fever transmitted by lice first appeared in French West Africa in July 1921. It spread across Africa unchecked, reaching Darfur in September 1926. At the commencement of 1927, as indicated in the report for 1926, the position in Darfur was grave. Zalingei and Nyala districts, and in particular the Jebel Marra area, were heavily affected. The disease had spread north into Kuttum district and eastwards into Fasher district. In Nyala district it had come within 110 miles of the Kordofan border.

382. A total of 10,000 deaths were estimated to have occurred in Zalingei district alone. The country was difficult, communications were bad, the people infected mostly ignorant, timid and very dirty. There appeared to be a grave danger of the disease spreading to Kordofan and the Central Sudan, as up to that time its progress had remained unchecked. By July (*i.e.*, at the beginning of the rains), as a result of the measures taken, the

position had greatly improved. Not only had the progress of the disease eastwards been checked, but the areas infected in Darfur had been considerably diminished. In Zalingei district south of Jebel Marra the disease had largely burnt itself out. Nyala district was clear to the east of Nyala town. Jebel Marra, however, remained heavily infected, and sporadic outbreaks were continuing to occur in the Kuttum area, in the western parts of Nyala and the eastern parts of Zalingei districts.

383. During the rains active work became impossible, but fortunately the people do not move about much at that season. Work was recommenced as soon as possible after the rains, and by the end of the year the position had still further improved. Eastern Darfur was practically free of the disease, and the Jebel Marra area, which had been so difficult to deal with and which had been the chief centre of dissemination, was almost clear. On the other hand, isolated outbreaks continued to occur in the northern districts and in Western Nyala; there were also severe outbreaks in Southern Zalingei and minor outbreaks in the Southern Masalit country. In view of the greatly improved position in Eastern and Central Darfur all quarantine delousing stations were removed both in Darfur and in the bordering provinces.

Endemic Diseases: Bilharzia.

384. Steady progress has been made with anti-bilharzia work. Special attention has been paid to the mollusc destruction and propaganda side of the work, which is being carried out in combination with the treatment of infected cases.

385. The aspect of the question which is of paramount importance is the protection of the Gezira irrigated area from becoming infected with this disease. To attain this end special measures have been taken with regard to this area, of which the following are examples:—

(1.) The drying off or, where this is impossible, the treatment with sizolin of all the secondary canals so as to ensure the destruction of all molluscs. This was carried out during May and June.

(2.) The quarantining and treatment of all infected labourers, whether from Egypt or from the west, before they are allowed to enter the irrigated area.

(3.) The treatment of any cases discovered in the area.

(4.) Propaganda and special regulations to prevent urination and defæcation into the canals or bathing in the canals.

386. During the year 56,057 persons were examined for this disease, 6,308 were found to be infected, and 3,631 completed treatment and were cured. All Egyptian labourers proceeding to the Gezira were examined for bilharzia at Wadi-Halfa. Those infected were either rejected or detained for treatment and cured before being allowed to proceed to the Gezira.

387. The following are the figures for the Wadi-Halfa quarantine :—

8,232 examined.
514 rejected on account of bilharzia.
1,117 detained for treatment until cured.

388. Quarantine stations were established at Kosti and Dueim for the examination of all immigrant labour from west of the White Nile Province. All infected cases were treated and cured before being allowed to enter the Gezira. The following are the actual figures :—

Dueim quarantine (April to December)—

2,128 passed through quarantine.
328 were found to be infected with bilharzia and were treated.

Kosti quarantine (January to December)—

8,793 passed through quarantine.
739 were found to be infected with bilharzia and were treated.

Ankylostomiasis.

389. This disease is endemic in Dongola Province, the White Nile Province, Wadi Halfa and Central Kordofan. Examinations in Wadi Halfa district point to an ankylostoma infection of 10 per cent. of the population. In Dongola Province a careful ankylostoma survey was made in 1924; 11·2 per cent. of the population was found to be infected, and vigorous treatment was instituted.

390. The school inspections for 1927 show an infection rate of ·4 per cent.

Tuberculosis.

391. There is no evidence to show that this disease in gaining ground in the Northern and Central Sudan. The detrimental effects of aggregation in towns and the greater exposure to infection from movements of the population are probably fully counterbalanced by better nutrition and greater protection from debilitating diseases, such as malaria and bilharzia.

392. In the south the population has had little opportunity of acquiring immunity, and the position will need careful watching. There is evidence to show that pulmonary tuberculosis is very common among the Shilluk, the pagan tribe which has been most exposed to infection, and which is at the same time most sedentary. The chiefs are being instructed to ensure the modified isolation of tuberculosis-infected persons in their own villages.

393. The following list shows the figures for admissions to hospitals for tuberculosis during the past ten years :—

Year.	Admissions.	Percentage of total admission rate.
1918	216	1·5
1919	191	1·4
1920	219	1·3
1921	220	1·35
1922	234	1·38
1923	251	1·46
1924	290	1·46
1925	292	1·46
1926	371	1·71
1927	404	1·55

Syphilis.

394. Syphilis is general throughout the Northern and Central Sudan. It is also common in certain areas in the south. The people appreciate the value of treatment, and where a hospital or a dispensary is within reach they seek medical assistance as soon as they realise that they have contracted the disease. In areas which are well provided with hospitals and dispensaries the position is not unfavourable. The position will improve as medical assistance is brought within reach of a larger proportion of the population. Syphilis is second only to malaria as a cause of miscarriage and still-birth; it is also a common cause of sterility; 36,808 injections of novarsenobenzol were given for syphilis at the various hospitals and dispensaries during the year.

Yaws.

395. Yaws is the most widespread and most crippling disease affecting the negroid races of the upper reaches of the White Nile. It is the greatest cause of unfitness for work, and, unless it is got under control, will be a great hindrance to agricultural development. The "Lady Baker" hospital ship and five dispensaries are working in heavily infected areas. Shambe is the last of these dispensaries to be opened, and deals with the largest number of cases. Except in special cases, a single injection of novarsenobenzol is given; the object being to render the patient non-infectious and so to prevent the spread of the disease rather than to obtain a complete cure. There are still large areas too remote from dispensaries for patients to attend.

396. A definite campaign against yaws was begun in February of this year. The method adopted has been to take a limited self-contained area and to render non-infectious every infected case within that area. The Lake Jorr area was selected, a careful census was taken and nominal lists prepared; 3,356 persons were examined; 51 per cent. were found in an infectious stage of yaws; 19 per cent. had had injections within the last few years; they showed no signs or symptoms. All the infectious cases were

treated. The campaign was continued in the adjacent areas. Unfortunately, political troubles have prevented the results being followed up and tabulated, but enough has been seen to show the value of the systematic treatment of a limited area.

397. A total of 29,607 injections of novarsenobenzol were given for yaws in the course of the year. Of these, 16,618 were given at dispensaries and the hospital ship, and 12,683 were given in the "yaws campaign" area.

Leprosy.

398. The incidence of leprosy in the Northern and Central Sudan is very light. As the Central Sudan merges into the southern area the incidence becomes heavier and continues to increase until the Southern Bahr-el-Ghazal and Mongalla Provinces are reached. The policy adopted is :—

(1.) To emphasise to all sheikhs and chiefs the infectious nature of the disease and the importance of relative isolation of lepers in their own villages.
(2.) To avoid any form of compulsory isolation in leper camps or leper hospitals.
(3.) To encourage sheikhs and chiefs to bring early cases to hospitals and dispensaries for treatment where possible.
(4.) To form a certain number of voluntary leper treatment hospitals or camps in areas of severe infection or at important centres.

399. Leper-treatment hospitals exist at Omdurman and Gedaref, and have been recently opened at Yei, Kajo Kaji and Opari in Mongalla Province and at Source Yuba in the Southern Bahr-el-Ghazal. A few beds are available for lepers in a special building adjacent to Atbara hospital. The Church Missionary Society hospital at Lui maintains and treats some seventy lepers in a leper camp near the hospital.

Dysentery.

400. The following are the figures of admissions to hospitals for dysentery during the last seven years. The table also shows the ratio of admissions for dysentery to the total admissions for each year of this period :—

——	1921.	1922.	1923.	1924.	1925.	1926.	1927.
Amœbic	477	390	504	605	483	543	835
Bacillary	89	48	27	111	326	271	337
Total	566	438	531	716	809	814	1,172
Percentage of all dysentery admissions to total admissions	3·0	2·4	2·9	3·6	4·3	3·7	4·5

General Progress.

401. The following table gives a comparison between the total of in-patients and out-patients treated at all hospitals and dispensaries during the year under report and the three preceding years :—

—	1924.	1925.	1926.	1927.
In-patients	19,827	18,637	21,738	26,023
Out-patients	394,418	470,697	833,990	1,096,839

Buildings.

402. The following new buildings were completed :—

Upper Nile Province—
Malakal hospital—
Women's ward.
Kitchen block.
Administrative block.
Attendants' quarters.
Dispensary "hakim's" quarters.
Renk dispensary : "hakim's" quarters.
Fanjak : "hakim's" quarters.

White Nile Province—
Kosti hospital : female ward.

Kordofan Province—
Abu Zabad dispensary—
2 brick huts added for accommodation of detained patients.
Zeer house.

Kassala Province—
New dispensary at Aroma.
Goz Rageb dispensary : 2 brick huts added for accommodation of detained patients.

Red Sea Province—
Tokar hospital completed.

Dispensaries.

403. New dispensaries were opened at the following places :—

Upper Nile Province—
Shambe : 15 beds.
Fanjak.
Travelling dispensaries at Akobo and Nasser.

Dongola Province—
Gureir.
Ghaba.

Red Sea Province—
Akik.
Musmar.
Port Sudan, east side.

Blue Nile Province (irrigated area)—
Sabi Deleib.

White Nile Province—
Shegeig.

Bilharzia Treatment Centres.

404. Bilharzia treatment centres were established at the following places:—

Um Gerr.	Shawal.
Aba Island.	Zenouba.
Fashi Shoya.	Shabasha.

Kitchener School of Medicine.

405. Ten students from the Gordon College were admitted to the school in January 1927 and commenced the first-year course. Of these, seven satisfied the examiners at the end of the year, two were referred back for a further year in the first-year class, and one was recommended to discontinue his medical studies. Final examinations were held at the end of the year for the eight students who had completed the course. Two assessors were brought from Cairo to supervise the general conduct of the examination and to regulate the standard to be maintained. Seven of the eight students satisfied the examiners and were granted licences to practise. The eighth was put back for a further year's study. The seven successful candidates are being posted as house-surgeon and house-physicians at seven of the larger hospitals.

Laboratory Assistants.

406. Three additional laboratory assistants have completed their training this year at the Wellcome Tropical Research Laboratories. There are now nine native male laboratory assistants and one female laboratory assistant stationed at nine of the larger hospitals. They are able to carry out routine microscopic examinations, and thus greatly lighten the work of the medical staff.

Midwifery Training School.

407. Out of a class of fourteen pupils twelve successfully completed their course of training and received a licence to practise. These newly-trained midwives have now returned to their provinces, where they will carry on their work. Up to the present seventy-seven midwives have completed their training.

Of these, seventy-six are practising their profession. They are distributed as follows :—

Staff nurses in the midwifery school	2
Practising in—	
Omdurman	21
Khartum	13
Khartum North	5
Berber Province	7
Dongola Province	6
Kordofan Province	8
White Nile Province	13
Kassala Province	1

In addition to the probationer midwives' course of training, a course of instruction was given to seven nurses who had completed their course of training at the nurses' training school at Omdurman, and also to two dispensary "hakims."

Nurses' Training School, Omdurman.

408. Seven nurses completed their two-year course of training at the end of the year. These are the first female nurses to receive a systematic course of training in the Sudan. Two are being retained as staff nurses at Omdurman; the other five are being sent to provincial hospitals.

Subordinate Medical Staff.

409. The efforts referred to in last year's report to increase the numbers of subordinate medical staff were continued. Twelve dispensary "hakims" and thirteen sanitary "hakims" completed training during the year.

Sleeping Sickness.

410. The principal medical officer reports that a total of eleven cases of sleeping sickness were found in Mongalla Province, including one in Yei district. Two women were found with sleeping sickness who had come through the forest and spent two months in a village north of Yei. As they had come from the Aba Faradje district they were repatriated under supervision. Although it had been asserted that there were no cases in this area of the Belgian Congo, an inspection produced fourteen cases. The visits recently exchanged between the administrative authorities concerned will, it is hoped, be productive of good results. The administrative and medical authorities of other bordering areas are co-operating as far as possible, and boundary meetings have taken place.

411. In the Southern Bahr-el-Ghazal the results are still better, the number of cases found during the past twelve months being forty-three as compared with seventy-nine for the previous year. An enormous amount of work has been done towards

improving the conditions of life. For instance, among the many activities of the combined administrative and medical staffs, in addition to the treatment and general care of the patients, may be mentioned the following: The improvement of roads and bridges; the cultivation of sweet potatoes, cassava, ground-nuts, maize, rice, &c., on a large scale; fruit growing; the production of silk and beeswax; the installation of a water ram, a brick-making machine and a saw, to facilitate erection of modern red-brick buildings in the settlement.

412. A résumé is being compiled of the history and evolution of sleeping sickness in the Sudan.

Chapter XIV.—Provinces.

Bahr-el-Ghazal.

413. The Governor reports with deep regret the treacherous murder of Captain V. H. Fergusson, O.B.E., District Commissioner of the Eastern District, by the Nuer near Lake Jorr in December, and of M. Andria Panyotopoulos, a Greek merchant, who lost his life in a gallant but hopeless attempt to save him. This isolated act of treachery and the measures taken in consequence are dealt with elsewhere in this report.

414. Public security elsewhere has been good, and the general situation in the province is peaceful and satisfactory.

415. The policy of the wider association of the native authorities in the administration of their tribes has had a fair trial and proved thoroughly sound, and of benefit to the Government and to the people. In the western district, however, the division of the population into scattered tribes makes the application of the policy unusually difficult.

416. The rainfall was the lowest on record. The earlier fears of a shortage of grain were not, however, eventually realised, and there is no fear of actual distress.

417. The general condition of the people is good, and there is evidence of a distinct increase in population.

418. A very satisfactory improvement in the communications in this large and difficult area is reported, no less than 3,000 miles of road being open for motor transport, as against 1,700 the previous year. Four iron pontoon motor ferries have been placed on the more important river crossings with excellent results. Postal arrangements, however, between the province and Khartum still require improvement.

419. One of the most notable events of the year was the official opening in December of the Stack Memorial School at Wau. The school had been in use for some months previously, and the Dinka chiefs, impressed by the results already obtained, are relaxing their old conservative opposition to education. The appointment of a British resident-inspector will give an added impetus to the development of education.

420. The success of the work of the medical officers, ably supplemented by that of many district commissioners, in fighting

syphilis, yaws, sleeping sickness and leprosy, has been most encouraging. The cases of sleeping sickness fell from seventy-nine in 1926 to forty-three in 1927; other results have been equally satisfactory. That the value of medical work is appreciated among these uncivilised tribes is shown by the fact that the out-patients have increased from 6,000 in 1923 to 27,400 in 1927. An event without parallel, even in the more civilised Northern Sudan, was the subscription of £E. 300 by the chiefs of the Shish Dinka towards a motor ambulance to bring their sick from inland to the hospital on the river at Shambe.

421. The use of money is becoming more general. It is hoped that experimental plots of cotton and grain will lead to an improvement in the money crops of the province. On the provision of facilities for export of such crops, and of cattle, the future prosperity of the province will ultimately depend.

Berber.

422. The Governor reports that the year 1927 was a very satisfactory one financially. The receipts were well above the average of the past five years, while expenditure was below the budgetary estimate. All taxes were paid without difficulty, and all arrears, totalling about £E. 2,000, from previous years were collected. The high Nile flood of 1926 enabled a largely increased area of riverain land to be brought under cultivation and produced an increase in the revenue from land tax.

423. The general condition of the people was on the whole better than in the previous year. The rains in 1927, while not sufficient for successful rain cultivation, ensured adequate grazing and improved the condition of the animals.

424. Recent works to enlarge the area flooded by "basin" irrigation during the Nile flood proved successful, and more work will be undertaken next year. Crops grown in the "basins," as well as rain-crops, suffered severely from locusts. The Government entomologist and his staff gave valuable assistance in fighting this pest, but was heavily handicapped by the failure of the natives to report swarms of hoppers.

425. In the latter part of the year trade in animals increased largely and prices rose. There was an increased demand for camels in Egypt, and the export trade received a welcome impetus.

426. Public security was very satisfactory, and there has been a marked decrease of serious crime. The number of cases tried by non-summary courts decreased from 103 in 1926 to forty-nine in 1927. The police force continues to show improvement, and much progress has been made in the training and education of the men. Recruits of a better type are now enlisting. The discipline, *moral* and efficiency of the force have much improved.

427. During the year five village courts with limited territorial jurisdiction have been established to settle locally petty criminal and civil cases. These courts have been an unqualified success and have amply justified their establishment. They have done

remarkably good work. The total number of cases dealt with by them during the year was 248 civil and eighty criminal. That the courts are popular with the people is shown by the fact that a group of villages asked to be placed under the jurisdiction of the nearest village court, in which they had not originally been included.

428. The policy of insisting upon the sheikhs taking a greater and more responsible share in the administration of their people has been steadily pursued, and noticeable progress has been made.

429. The number of Government schools remains the same as last year, but the number of pupils has increased from 1,000 to 1,102. The system of subsidised village schools has, however, been largely extended. The number of these schools now totals forty-seven, at which approximately 2,500 boys receive the rudiments of education. It is satisfactory to note that the opposition of the people of this province to the establishment of schools for girls has at last been overcome, and a start is being made by the opening of a girls' school at El Damer early in the new year.

430. The public health of the province remains satisfactory. The campaign against bilharzia has continued, but has been hampered by lack of adequate staff.

Blue Nile.

431. Mr. R. V. Bardsley, O.B.E., succeeded Mr. A. J. C. Huddleston, C.M.G., O.B.E., as Governor during the autumn. He reports that the second season of the Gezira scheme has been as successful as the first; 100,000 acres were under cotton, as compared with 80,000 in 1925–26. The cotton crop was excellent, both in quantity and quality, and yielded an average of 4·77 kantars per feddan, as against 4·799 kantars the previous season. Labour was plentiful owing to economic stress outside the scheme; pests were practically non-existent; and climatic conditions were favourable. By the end of the year £E. 1,046,000 had been paid out to some 10,000 tenants on account of profits, and it is anticipated that they will receive in all more than £E. 1,250,000.

432. During the year the area of the scheme was increased by 5,000 acres of cotton at the southern end, and this was brought under cultivation in July. Arrangements have been made for the extension of the total area from 300,000 to 450,000 acres gross, the major canalisation of which will be completed by the 15th July, 1930.

433. The prospects for the 1927–28 season are not so promising, owing chiefly to unfavourable climatic conditions, but it should be remembered that the results of the first two seasons have been exceptional and could not reasonably be expected to continue without a break.

434. The 1926–27 rains were again a failure and produced a dura crop of only 216,000 ardebs, the lowest on record. On the other hand, a high Nile in 1926 provided riverain cultivation above the average and afforded considerable local relief, particularly in Kamlin. This year's rains were good, and the crop of 780,000 ardebs is the third best of the last ten years.

It does not include a further 200,000 ardebs grown inside the irrigated area.

435. The general agricultural situation is satisfactory, and there are ample supplies of grain for two years evenly distributed over the province. Very little American rain-cotton has been grown, as all efforts were concentrated on grain.

436. The economic position of the people is sound. Although the price of grain rose at one time to £E. 1·077 mms. the ardeb, the market was kept steady by the sale of Government dura and the importation of Egyptian dura. There was no real hardship, and at the end of the year the price had fallen to 66 P.T. The Gezira scheme, in addition to providing work for some 80,000 labourers during the early months of the year, produced, besides grain, 60,000 ardebs of the lubia bean, which rapidly became popular as the poor man's food; it also supplied grazing for many thousands of animals.

437. There has been no difficulty in collecting taxes. The main taxes totalled £E. 63,000, which included £E. 2,500 arrears from the previous year; of this amount all but £E. 1,300 had been paid up by the end of the year. Local provincial services showed a deficit of £E. 748 on a budget of £E. 15,664. Trade, considering the bad economic conditions outside the Gezira scheme, has been good and showed improvement on that of the previous year. Sugar consumption increased from 56,542 to 67,680 bags, and there was a larger demand for cotton goods, tea, dates, skins and sesame. More money has been in circulation and merchants are conducting their businesses on a sounder basis.

438. Considerable progress was made in the wider association of native authorities in administration. The working of the village courts, of which there are sixty-three in the province, has been generally satisfactory; the assessment of their own crops by village boards has proved a successful experiment, and encouraging results have ensued from the devolution of administrative functions in other directions.

439. There has been an increase in criminal cases, particularly theft, which was not unexpected, owing to a large influx of natives of West Africa into the irrigated area and economic hardship in part of the province outside it, but public security is unimpaired. The efficiency of the police has been higher, and the establishment of 378, though rather small, has satisfied the large demands made on it with great credit.

440. Public health has been good except for a very heavy epidemic of malaria towards the end of the year, which was common to the whole province.

Darfur.

441. The Governor, Mr. R. A. Bence-Pembroke, went to England on sick leave early in January and was unfortunately unable to return to duty. Mr. D. C. L. Purves, the Deputy-

Governor, was in sole charge of the province until Mr. C. O. Dupuis arrived as Governor in November.

442. Mr. Dupuis reports that owing to the failure of the 1926 rains, conditions during the last month or so before the 1927 rains approximated to a partial famine—except in the south-west and west of the province. Restrictions on movement owing to the relapsing fever epidemic added to the difficulties the people experienced in feeding themselves. To remedy the situation the poll tax was collected in grain in Zalingei district, and arrangements were made for the grain to be transported to El Fasher and other parts where there was scarcity for sale to the people and to supply the requirements of the Sudan Defence Force. The price of grain in El Fasher market rose to 160 P.T. in August as against a normal price of 50 to 80 P.T. The rains of 1927 were, however, abnormally heavy, and the previous scarcity having stimulated cultivation a very large crop indeed resulted. The price of grain at El Fasher fell in November to 30 P.T., a lower level than has been reached for some years.

443. Though the amount of tobacco produced has not yet recovered from the set-back of 1926 (only 3,300 kantars as against 11,300 in 1925), the price per kantar has tripled, and it now stands so high that much of it is exported by car.

444. The province revenue shows a considerable drop from £E. 69,800 to £E. 56,600. This is almost entirely due to the decreased receipts from the royalty on gum due to bad harvest and relapsing fever quarantine restrictions; the balance of the decrease is due to remission of taxes owing to the mortality from relapsing fever and to cattle sickness (£E. 1,300 and £E. 600 respectively); the latter has caused unusually heavy mortality among the herds in both the southern and northern districts; in the former the epidemic is described as the worst within living memory.

445. The breeding scheme for improving the standard of country-bred ponies has been extended, and there are now fifteen stallions standing in the province. Over 200 horses were purchased for the army at the horse shows in the southern districts.

446. The measures taken to combat the epidemic of relapsing fever were not fully organised until about the end of March, but from that date the numbers of fresh cases occurring decreased very rapidly indeed, and by the beginning of the rains, when the majority of the staff had to be withdrawn, the epidemic had been reduced to scattered cases. These are still occurring, and owing to the continued prevalence of the disease in French Equatorial Africa sporadic cases are bound to continue to occur, but with the people becoming steadily more appreciative of the benefits of treatment it is hoped these will be promptly reported and speedily dealt with. The epidemic has had at least one good result, in that it has afforded a wonderful opportunity of getting in touch with the people, especially those of the wilder parts of Jebel Marra.

447. A further step in the administration of Dar Masalit by the Sultan and his staff was taken in the construction of a native administration prison and a native court-house in the town. All persons convicted by the native courts are now confined in the native prison and guarded by native administration warders.

448. Relations with the French administration continue to be cordial, and meetings have taken place to settle local frontier matters. The commandant of Wadai visited Geneina in May and met the Acting Governor.

449. In January a fanatical fiki named Muhagir collected some 300 followers in the name of an unknown Mahdi who has not since appeared, and marched on the Government post at Zalingei. News having been sent to Kebkebia, No. 1 Company, Western Arab Corps, made an extremely rapid march to Zalingei; on hearing of their arrival the fiki turned back, and the large majority of his followers dispersed. A police patrol, consisting of one non-commissioned officer and eight men from Geneina, came in contact with the remnant and attacked and killed the fiki. A feature of the affair was the loyalty of Shartai (chief) Ali Bakhit of Zami Baya and the valuable and early news of the rising given by him. He has since been presented with the King's Medal for Native Chiefs.

450. The increased use of motor transport by district commissioners and doctors engaged in the anti-relapsing fever campaign has led to the opening up of large areas hitherto untouched by motor transport. The valuable experience in road-making gained thereby has resulted in great improvements in the roads all over the province. The circular tour round all the district headquarters is now regularly made. An alternative route from Abiad to Fasher (on the El Obeid–Fasher road) avoiding the Dirra sand-hills has been found.

451. A fortnightly motor-car mail service was run between Nahud (Kordofan) and El Fasher throughout the year without a single failure.

452. The new system of education in native village schools referred to in last year's report has not proved as successful as had been hoped. Though the tribal leaders are alive to the advantage of having their children taught to read and write, the mass of the people remain supremely indifferent to any form of education beyond the teaching by rote of portions of the Koran. Difficulty has also been found in providing teachers for these village schools from the natives of the locality; capable instructors imported from other parts of the province are regarded with suspicion and distrust. The whole scheme is, however, in its infancy, and the support of the chiefs should bring it to eventual success.

453. Public security throughout the province is on the whole good. The number of persons convicted for all offences shows a large decrease from 1926, though the total is still slightly higher than 1925. The position is, however, more satisfactory than at first appears in that, after deducting the number of persons

convicted for offences against the relapsing fever regulations, the total is much lower than that of 1925.

Dongola.

454. The Governor reports that the flood of the autumn of 1926 reached a level somewhat higher than the average, and in consequence the year was a fairly satisfactory one for the native cultivator. There was no scarcity anywhere, and the condition of the cattle in the slack period was noticeably superior to their condition at the same time last year. The flood in the autumn of 1927 was, however, late, of short duration, and below normal, being 42 centim. lower than that of 1926. Consequently a large part of the fodder-producing islands were not covered, and the sagia cultivators will find conditions hard. Moreover, only a small area of "basin" cultivation will be possible, an area of 35,000 acres being cultivated in 1926 as against 25,000 in 1927.

455. Public security was good. The Bedai raiders from the west did not put in an appearance throughout the year, possibly deterred by the demonstration made against them after their raid on the Natrun caravan in 1926.

456. There was little serious crime. Out of a population of 170,000, only seventeen cases were tried by magistrate's courts.

457. There was a small increase in the number of Government-aided village schools. These schools are useful, but their standard is very primitive, and it is hoped there will be an increase in the number of schools of higher standard. At present there are only three elementary schools (kuttabs) in the province. Education is popular, and the people respond to efforts to help them in this direction.

458. The only important new work undertaken was the establishment by the Agriculture Department of a new pumping station at Heitani. The stretch of river bank which this commands has always been a source of some anxiety in years of low Nile, and it is hoped that the permanent irrigation of some 5,000 acres of land will insure the district to some extent against the risk of famine.

459. Public health has been on the whole good. But the people are slow to learn enough of the principles of hygiene to help themselves, and much avoidable disease, particularly of the eyes, is still evident.

460. There has been an extension of the number of village courts set up, and now nearly all trivial complaints are heard, and in nearly all cases settled in the village where they arise. This saves the cultivator from having to leave his crops, often for several days, in order to have a trifling dispute settled.

461. An unusual feature was the entry into the province of 14,000 persons by rail and steamer as against 7,000 who left it. Possibly this is due to a cessation of work on the major irrigation works in the Gezira, and the figures for 1928 may show another exodus in search of further employment.

Fung.

462. Mr. L. F. Nalder, C.I.E., C.B.E., succeeded Mr. C. G. Dupuis as Governor in November. He reports an improved financial year, showing a small balance of receipts over expenditure as opposed to last year's deficit.

463. Although the rains south of Roseires and along the Abyssinian frontier were poor, north of Roseires they were excellent. Dura and sesame crops were good, a welcome relief after the past two bad years. In the northern districts the agricultural population are, however, still heavily in debt, but another good year should clear them. Practically no rain-cotton was grown, sesame being the favourite money crop. An experiment in growing Indian corn on the land covered by the Nile flood, which is resubmerged by the filling of the Makwar reservoir, was successful. The crop produced was good, though much of it was lost through the difficulty of protecting it from the rising reservoir.

464. Development of communications improves, and there are now 450 miles of dry-weather roads in the southern district, linking up Roseires with the Abyssinian frontier, the Ingessana Hills, Kurmuk and the Yabus River. Considerable quantities of Abyssinian coffee are being carried from Kurmuk by motor lorry, both Morris and Chevrolet.

465. A better water supply was obtained by the digging of large reservoirs at Jebel Dali and Jebel Bozi before the rains. They filled well and greatly assisted cultivation and gum picking.

466. Nine new village schools were opened during the year, bringing the total in the province to eighteen. They are well attended, and many applications have been made for others. The first girls' school of the province is to be opened in January 1928 at Singa.

467. During the year 3,000 tons of gum were exported from the province, the royalties thereon providing a third of the total province revenue. A gum market was started at Singa at the end of the year.

468. The forest policy was overhauled during the year and various vexatious restrictions removed. It is hoped that the possibilities of growing building timber will be energetically pushed in the coming year.

469. Friction has occurred between the "muwalidin" Fellata in the north of the province and their Fung chiefs and led to the emigration of some Fellata to Kassala Province. The trouble appears now to have subsided.

470. The nomad herds were relisted during the year. The new lists showed a slight increase in camels, a $12\frac{1}{2}$ per cent. drop in cattle, due to cattle plague, and a 40 per cent. increase in sheep. The relisting was done entirely by the local headmen.

471. Efforts are being made to enhance the chiefs' prestige and improve tribal discipline. Some of the chiefs, particularly the younger men, are responding well. Native courts were constituted under the Village Courts Ordinance throughout the

northern district and in four tribal sections in the south, and seem to be functioning well. The heterogeneous nature of the population and the resulting local jealousies make larger schemes of native administration difficult of conception and slow in application.

472. In the southern districts the Darfung–Ingessana–Gule area has never been properly administered owing to shortage of British staff. This year the appointment of an additional British district commissioner has enabled a beginning to be made as far as the latitude of Dar-el-Imam. The chiefs of the Southern Ingessana Hills are being encouraged to settle disputes amongst their own people, and appear to be doing so with enthusiasm and success. Their decisions cannot be reduced to writing, but that does not appear to matter.

473. Public security continued satisfactory. There was a small increase in serious crime, and a large increase in petty offences in contravention of the Passports and Permits and Public Health Ordinances. The conviction is reported of five persons in connexion with slavery.

Halfa.

474. The Governor reports an uneventful year, laying stress, however, on the trying conditions under which the people generally eke out their precarious existence. Emigration from the province continues, and 40 per cent. of the adult males of the southern districts are absent from the province in search of work. No remedy for this exists as long as the agricultural conditions remain so precarious, and the difficulties of transport from the south to Wadi Halfa continue. When the railway was open in 1898 to Kerma, a sack of dates could be brought to Wadi Halfa for 5 P.T.; the cost now by camel and river may be 50 P.T. to 60 P.T. A further handicap to export trade is that nearly 10 per cent. of the boats bringing exports down the Nile to Wadi Halfa are annually wrecked with the total loss of their cargo. The substitution of motor transport or a light railway is unfortunately impossible, but steps are being taken to see whether blasting of rocks is not a practical solution for improving the most dangerous places in the river.

475. The transport of personnel has been much simplified by the opening of a motor road from Wadi Halfa to Delgo, reducing this journey from twelve to two days.

476. The eight village courts established in Wadi Halfa district for the trial locally of petty crime and minor civil suits have done their work very satisfactorily. Members of the courts take a pride in their work and are pleased at the trust placed in them. A wide extension of village courts throughout the province is contemplated.

477. The Nile flood reached its maximum of 7·96 metres on the 1st and 2nd September. This is slightly below the average of the past seven years.

478. The failure of the rains in the Central and Southern Sudan was not without its repercussion in Halfa Province, where the high price of grain inflicted a severe hardship on a people who, even in normal years, cannot produce enough food crops to make them independent of the outside world. Locusts also appeared towards the end of the year and did much damage locally to the ripening grain. The date crop was satisfactory and a little above the average, a total yield of about 22,000 ardebs having been obtained. This amount could be increased if conditions of irrigation were easier. Local prices were in advance of those of 1925, but in many cases the natives sell forward and do not reap the benefit of any increased prices.

479. Education continues to be popular, and seven more native village schools were opened, bringing the total to thirty-five, with 1,394 pupils. There are also 449 boys in the elementary schools, and seventy-three in the primary schools. The increasing popularity of the girls' school at Halfa is shown by an increase of sixty pupils, half of whom are Mahometan girls.

480. The province budget shows a deficit of £E. 1,568 on the year, a considerable improvement on 1926. Improved communications and the wider use of village courts should permit of a further reduction in expenditure on government personnel.

481. The outstanding feature of the year was the increase in the number of aircraft landing at Wadi Halfa, 114, as compared with forty-five in 1926 and sixteen in 1925. The provision of adequate accommodation for aviators and passengers is being kept in view.

482. The general health of the province has been good except for endemic bilharzia and eye diseases of various forms.

483. A start was made with some public gardens in Wadi Halfa towards the end of the year; these should prove of interest and value not only to the local inhabitants but to the hundreds of tourists who visit Wadi Halfa annually. Many of the latter have expressed a wish to stay in Wadi Halfa, but accommodation is at present insufficient and amusements are few.

484. Trade has been about normal. The cattle trade shows a further decline, but there has been a slight increase in the quantity of sugar consumed. In 1927 5,804 cattle were exported and 9,392 in 1926. For sheep and goats the figures are 12,638 and 17,977 respectively. The consumption of sugar increased from 8,133 sacks in 1925 and 10,294 in 1926 to 10,851 this past year.

485. The increase of crocodiles on the reaches above Wadi Halfa has become a serious nuisance, and is attributed by the natives to steady reduction of serviceable rifles and ammunition in their possession. Steps are being taken to counteract the evil.

Kassala.

486. The Governor reports that after three bad years the rains were very fair and the Gash flood equalled the excellent flood of 1926. The principal rain crops increased as follows:

Grain from 111,000 ardebs in 1926 to 230,000; sesame from 11,700 to 21,000. Cotton, however, decreased from 26,000 kantars in 1925 to 1,000 in 1927. The grain crop was seriously damaged by locusts, and 40,000 ardebs are calculated to have been destroyed in one district alone. A crop of 20,000 ardebs was directly due to new reservoirs for water recently dug, which enabled new land to be brought into cultivation.

487. The climatic conditions were as favourable for rain-grown cotton as in the bumper year 1925. The causes of the poor crop this season were two: firstly, the yield was about half a kantar per acre as against 4 or 5 kantars, due to the use of old seed; and secondly, rain-grown cotton has been ousted by grain and sesame in all regions near the railway. Its chance lies further afield, where its lighter weight makes it more suitable for long carries by animal transport than cereals.

488. The Gash flood of 1926–27 produced 54,000 kantars of sakellarides cotton, and the crop would have been even larger had not damage been done by nomad herds. The 1927–28 Gash flood should produce an equally good or better crop, and the provision of new water supplies referred to below should attract the herds further away from the cotton fields.

489. The railway from Kassala should reach Gedaref early in the new year. The immediate result will be a reduction in the freight on dura to Kassala from 50 P.T. to 10 P.T. the ardeb. The export of cereals from the southern half of the province should be doubled by the railway and the improved water supplies for the cultivators. It is hoped also that large areas can be reafforested with gum after the water supply in them has been developed, and a corresponding increase made in the output of gum.

490. The native administration of the gum allotments again worked with perfect smoothness. The areas into which the southern districts were divided for this purpose are now about to become the boundaries of native régimes, each with its own chief, retainers and native tribunal. Another step forward was the substitution in the nomadic Butana of such retainers for ten of the province police. They have performed their duties satisfactorily, and law and order in the Butana is stated to have improved rather than suffered. Eight native courts are about to be started. A civilian sub-mamur has been economised, and a district headquarters and another half-section of police will follow suit.

491. Financially, the year has been successful. Revenue exceeded the estimate by £E. 4,000 at £E. 66,000 (including arrears of tribute). Expenditure was £E. 67,000. The additional revenue from Gash cotton reached the very high figure of £E. 68,000. An unsatisfactory feature was the failure of the nomad tribes in the Butana to pay their tribute. It is now certain that much of the arrears will be paid early in 1928.

492. The returns from the Gash for 1926–27 and the prospects for 1927–28 enable the Government to take over the

cultivation of the Gash Delta from the Kassala Cotton Company under very favourable auspices.

493. The output of gum for the last two seasons has been, in kantars :—

	Hashab.	Talh.
1925–26 ...	59,000	9,500 (a record).
1926–27 ...	44,800	13,300 (a second record).

This season heavy rains have delayed the exudation of gum, but the natives are very hopeful of a good output. It is considered that at least an extra £E. 2,000 has been gained in royalties through improved water facilities for gum pickers.

494. Since the arrival of Dr. Pridie two years ago, the medical administration of that part of the province for which he is responsible, but which does not include the more unhealthy southern districts, has been revolutionised. Out-patients have increased from 14,000 to 31,000 at the hospital, and *pari passu* from 9,000 to 40,000 at the rural dispensaries. These now include two medical caravans with a tribal staff for the nomads of the Butana. Hospital and dispensaries are inter-dependent parts of one organisation created and controlled by Dr. Pridie, whose work and personality have proved invaluable. Malaria was prevalent on the Atbara and near the Gash during the rains. Otherwise the health of the province was good, though the dust storms of the summer and the heat and sand-flies of the winter have taxed the residents of Kassala town.

495. Crime has not lessened, except perhaps in the Butana, but its detection has improved considerably. This improvement is due to the increasing sense of responsibility felt by the sheikhs, without whose co-operation the excellent police force are powerless.

496. Trade in cattle and sheep was poor, but the camel meat trade to Egypt is good. During the season under review about 13,000 camels were walked from this province to Egypt, for sale at a net profit of about £E. 6 a beast. Last season the corresponding figures were about 10,000 and £E. 3. The Egyptian fellaheen, receiving a better price for their cotton, can afford more camel meat.

497. Owing to straitened conditions elsewhere, many herds were forced on to the Eritrean frontier. This resulted in the reappearance after many years' absence of contagious bovine pleuro-pneumonia. Thanks to his car and to the co-operation of the natives, the veterinary inspector was able to cope with the situation. The cases from rinderpest were negligible. New reservoirs and well centres help to segregate the herds.

498. The problem of water supplies for both men and animals has been engaging the attention of the Government throughout the year. In the Gash Delta water must be supplied near the cotton for the cultivators, and away from it for the herds. Bores at Gamman give promise of producing 150,000 gallons a day, which, with the help of pipe-lines, should suffice

for the former. In the Western Gash the well centres of Tombai and Akala were heavily flooded by the Kassala Cotton Company and provided for large herds up to the end of the year. Between the Gash and the Atbara, Hadendoa sheikhs, financed by the province, succeeded in diverting much rain water into sand pockets, thus helping to keep the herds away from the cotton. Since March 1926 about £E. 4,000 has been spent on about forty water storage experiments supervised by the province authorities. The successes outnumber the failures, and the programme continues. A party of experts under Mr. Featherstone has prospected in the Southern Butana and started to construct three large reservoirs.

499. Agriculture and gum trade has already begun to advance in the southern half of the province, and the future rate of progress will be in proportion to the speed with which arable lands, now inaccessible, can be reclaimed by means of widely-distributed water supplies for the influx of population to which the railway will give an impetus.

500. The progress noted in this report would have been impossible without the co-operation of the sheikhs, which they have only given because they have confidence in a first-rate staff of district commissioners and departmental inspectors well served by nearly all their subordinates. This staff is few and hard-worked, and it is hoped that the policy of devolution to tribal authority will lighten its labours and even decrease its personnel. The prestige of leaders is in inverse ratio to their numbers.

Khartum.

501. The Governor reports a satisfactory year, uneventful except for the completion of the bridge over the White Nile joining Khartum to Omdurman, which is to be opened officially to traffic early in 1928. A modified service of electric trams was begun on the 1st November with satisfactory results. A road joining Omdurman to the bridge was also completed during the year.

502. The area under pump irrigation has again increased, and several new applications for small pump schemes are also under consideration. The settlement of a further area of land has been completed, and questions of native rights of grazing and cultivation over Government lands are now being studied. The rain crops which at first promised well were very disappointing owing to attacks by locusts and other pests. The river land crop also failed to fulfil early prospects, and the yield was poor. No further issue of seed loans was made, as the general good rains over the country and consequent heavy fall in the price of dura removed the necessity for this type of loan.

503. A small local horse show was held at Geili, and it is hoped to make this an annual event. The general condition of live-stock in the province showed marked improvement.

504. The population showed a slight increase, chiefly in the rural district. The welcome fall in dura prices owing to the good

rains throughout most of the country eased the situation in the towns immediately. No further sales of Government dura to the people were necessary, and the small wage-earner, who had been through hard times, was relieved of anxiety as regards his staple food.

505. The supply of unskilled labour was again adequate, although the demand had been increased by the construction of the new general post office, the addition to the law courts, and other buildings. The difficulty of unemployment as regards the low-grade clerical class is still present. This can only be met by a general commercial expansion.

506. There has been a slight improvement in general trade conditions during the latter half of the year, and a more optimistic spirit is prevalent. The purchasing power of the small wage-earner has improved with the drop in grain price, and this has its natural effect on the prosperity of the petty shopkeeper. The amount of senna-mecca brought into Omdurman has shown a large increase on last year's figures.

507. There is little change in the budgets. Certain extra items have been added in respect of fire precautions. An agreement was made between the municipality and Central Government under which the latter increased its contribution to maintenance of roads, &c., by some £E. 2,000 per annum. The agreement was subject to reconsideration at the end of three years.

508. Public security has remained perfectly normal during the year. The number of non-summary cases has not increased compared with last year, but there is an increase in summary cases. Although convictions for sale and possession of native-made spirits do not show an increase, there is no doubt that in fact this illicit business is still growing. Periodic raids and deterrent sentences do not seem to have checked it as much as was anticipated. Increase in the fine penalty for this offence will need consideration, as the heavy profit is the obvious reason for taking the risk of detection. The police have again maintained a high standard of efficiency and discipline, and deserve special commendation for their quickness in answering and dealing with fire calls.

509. With the exception of three cases of small-pox the general health of the prisoners in the province prison remained good. No other epidemic of any sort occurred. In addition to minor repairs, a new ward capable of holding twenty to thirty prisoners was constructed. This has been a great relief to the previous state of congestion.

510. The Central Prison at Khartum North has continued to be administered by the Governor. Discipline amongst the warders has been well maintained, and the convicts themselves have again given no trouble. Certain alterations in sanitary arrangements in the large wards have been effected with great benefit to the general hygiene. The numbers in the prison on the 31st December were 370. The problem of the provision of a reformatory outside the prison for the juvenile offenders, to

which the Governor referred last year, has advanced a stage towards solution.

511. Certain difficulties which arose over the mission schools in 1926 have been smoothed over and nearly all the children are back at work. The "national" (as opposed to the Government) primary school has been efficiently conducted, and promises well for the future. The education of girls has received a distinct impetus.

512. A village court has been established at Geili; the prestige and personality of the president have given it a most promising start. The appointment of benches of local magistrates for Omdurman, Khartum and Khartum North is under consideration.

513. Public health has on the whole been good; there were no serious epidemics; diphtheria gave rise to some anxiety after the rains, and though three cases of small-pox occurred in April and August, the prompt measures taken by the medical authorities prevented any spread of the disease. Towards the end of the year the anophelene malarial infections became heavier, and the extension of mosquito prevention on the river and farms north of Khartum is being studied.

Kordofan.

514. The Governor reports an anxious period during the first half of the year, when conditions approximated to a famine. Relief was, however, afforded by the rains in July–October, which, though not good, were adequate.

515. The revenue for the year amounted to approximately £E. 184,500, being about £E. 10,250 in excess of the budget estimates. This does not take into account £E. 30,330 arrears still outstanding on herd tax and ushur, of which a considerable amount is expected to be recovered during the first quarter of 1928. The total surplus of revenue over expenditure was approximately £E. 99,259. The revenue from gum was £E. 103,107, being £E. 38,107 in excess of the estimated receipts, as against a revenue of £E. 102,003 in 1926. The total quantity of gum passing through the province markets was 267,819 kantars as compared with 336,951 kantars in 1926.

516. Grain was scarce in many areas till the new crop was harvested in October, owing to the failure of the 1926 rains, and relief works had to be opened in Eastern Kordofan and grain loans given in Eastern and Northern Kordofan and El Obeid district. The actual grain crop grown in 1927 was 385,716 ardebs, which shows a decided increase on 1925 and 1926, the figures for which were 283,353 and 253,927 ardebs respectively. The crop was below what it should have been because actual lack of food in certain areas restricted the work of the people on their cultivations.

517. The annual horse shows and the tribal gatherings of the Humr and Messeria tribes were held at Muglad and Abu Zabad

and were very successful. The Humr and Messeria tribes have at last begun to take a genuine interest in horse-breeding and to co-operate with the Government in the steps taken to improve the breed of their horses. The breeding of horses amongst the Messeria tribe is now progressing well, and the tribal horses appeared in far better condition this year than last. The Hamar gathering at Nahud produced not less than 1,148 horsemen—the horses comparing very favourably with those of the Humr and Messeria, and showing more stamina.

518. Trade has again been rather stagnant. The total sales of gum in Kordofan Province, however, were up to the average of the last few years, being 20 per cent. less than in 1926 and 8 per cent. more than those of 1925, but the price fell, showing an average of 610 mms. per kantar as compared with 730 mms. in 1926. Less grain, ground-nuts and cattle were exported by rail than in 1926. Cattle plague (rinderpest) was very widely spread during the early months of the year, and, as usual, gradually died away towards the rains.

519. The following motor roads have been improved: Rahad–Rashad, Rashad–Dilling viâ Benia (Gaibat) and El Obeid–Delami viâ Benia. The total number of privately owned cars in the province amounted to seventy-three as against forty-one during 1926.

520. The new water supply at El Obeid town from deep bores was completed by the end of December, and is in working order. A further programme of sinking deep bores in the province outside El Obeid has been carried out with success, new bores being opened and old bores duplicated at several places. Successful experiments were carried out in digging out reservoirs in pools in El Obeid district, and it is now hoped that this work will be carried on by the natives themselves with a certain amount of assistance from the Government.

521. The general condition of the people was on the whole satisfactory, though in certain areas grain was very scarce and a situation approaching famine obtained in these areas till the new crop was harvested.

522. During the year relations between the Kababish and the Kawahla tribes were placed on a more friendly footing after a successful tribal meeting held at Soderi. Trouble still exists between the Kababish and the Meidob tribe of Darfur regarding thefts by the latter and reprisals by the former, but it is hoped that a working arrangement may be come to shortly between the two tribes which will avoid the Kababish taking the law into their own hands.

523. Preparations for the launching of a wider scheme of indirect administration in certain selected tribal areas have been well advanced, and should be completed early in the new year. Meanwhile the assessment of the crops for tithe has been done collectively village by village by local boards, and the results have been satisfactory. The thirty native administration police appointed this year as an experiment have proved their value, and

their numbers will be expanded. It is a good augury for the success of indirect administration that out of 2,400 cases heard by the local and tribal chiefs, the decisions in only seventeen cases were reversed on appeal to higher authority.

524. The increase in crime, both serious and petty, was again very marked, but it may safely be regarded as the inevitable result of two consecutive years of poor rain and high prices. There has been of late years a large reduction in the number of persons convicted for slavery and kindred offences. The average for the years 1920–22 was twenty-five and for 1925–27 four.

525. Public health has been on the whole good, except for an epidemic of influenza in the south and west from May to July. The strenuous efforts of both medical and administrative staff against the spread of relapsing fever from Darfur were crowned with success, no single case having occurred in the province. The campaign against bilharzia was prosecuted with fair results, but the eradication of the disease at present presents grave difficulties. That the people as a whole appreciate the wider spread of medical assistance is shown by the increase of out-patients at Nahud hospital from 11,000 to 18,000, and by corresponding increases at the outside dispensaries.

Mongalla.

526. The Governor reports that the year was one of some anxiety as, owing to the scarcity of rains in 1927, the grain crop totally failed in Latuka district, was poor in the central district, and patchy in Opari and Moru. Yei and Meridi produced good crops. Famine relief works were started in Latuka, and grain is being imported from the north at the rate of 2,000 ardebs per month.

527. The total yield of cotton in the 1926–27 crop was 17,721 small kantars of seed cotton. The results are disappointing, the average yield being $2\frac{1}{4}$ small kantars per acre as compared with 4 kantars in the previous year. These results are due to the lack of rain late in the season, blackarm, and, in a lesser degree, bollworm. The 1927–28 crop is estimated at 11,600 kantars. The Torit ginnery worked for thirty-three days and turned out 384 bales of cotton. It has been decided to erect small ginneries at Yei, Meridi and Shukoli. The Yei ginnery will, it is hoped, be finished in time to gin the crop of 1927–28, but it is not expected that the other two ginneries will be ready in time to do this.

528. Coffee seed was obtained through private firms in Uganda. This was planted in nurseries, but turned out very badly, less than 4 per cent. germinating and giving a total of only 1,700 healthy seedlings. The cause of the failure was the excessive age of the seed. The 1926 seedlings, however, were planted out, and over 3,000 were found to be healthy plants and since their move have thrived well. Nurseries have been established at Nagichot, Taroma, Kikilai and Chukudum as

well as at Isoke, Irengi, Lugue, Katire, Murikurren and Torit, and also at Yei and Meridi. New areas of wild coffee have been found in five separate localities in the Acholi and Imatong Mountains. Hopes had been entertained that the 1927–28 crop of wild coffee was to be a very large one. The failure of the rains indicates that these hopes will not be realised.

529. It has been decided to move the headquarters of the province and of Rejaf district to Juba. Work on the new buildings necessary will proceed during the new year.

530. A motor road has been completed for 45 miles from Opari to Obbo, close to the Acholi Mountains. It should be of great use when the coffee is in bearing. A road connecting Rejaf with Amadi and Meridi is also under construction and will be completed by March or April. The district commissioner, Meridi, hopes to construct a straight road from Meridi to join the above road and so cut out the long detour to Amadi: a saving of 30 miles would thus be effected.

531. At a meeting held at Mongalla in January attended by representatives of the Italian Catholic Missions, the Church Missionary Society and the Education Department proposals for Government participation in education were discussed and agreed to. This scheme was sanctioned by the Governor-General in Council in May. It has been decided to hold a language conference in Rejaf in 1928 to discuss, among other topics, what native languages should be used as a vehicle for teaching in elementary schools. An intermediate school has been started at Rejaf East by the Italian Catholic Mission. A permanent site for this has been chosen at Lui in Latuka district, and it is hoped that the school will be moved there in 1928.

532. Public security remains undisturbed. The Abyssinian poachers have been busy in Kajo Kaji and Rejaf. A small body of poachers came to within 30 miles of Kapoeta, but returned hurriedly to their own country when they heard that a detachment of Equatorial Corps had been sent out to round them up. Four cases of murder and ten cases of culpable homicide have occurred during the year compared with five cases and six cases respectively during the previous fifteen months. The chiefs' courts continue to work very satisfactorily.

533. Meridi district was transferred to Mongalla Province from the Bahr-el-Ghazal as from the beginning of the year. The occupation of the Taposa country referred to last year has been completed without serious incident, and the general situation there has been much improved.

534. The increase in out-patients at Mongalla hospitals shows that the appreciation of medical help is rapidly spreading amongst these uncivilised tribes. At Mongalla 424 civil cases were treated as in-patients as against 377 last year, and 27,390 cases were treated as out-patients as against 8,906 last year. At Yei there were 581 admissions to the civil hospital during the year and 30,234 out-patients were treated. A travelling hospital arrived from the Bahr-el-Ghazal in June: this was used in the river

districts, which have long been under administration, but are remote from hospitals. As a result of the half-year's work most of the riverain villages and some of those 50 to 100 miles inland have been visited, cases have been treated, injections for yaws given, and many cases sent in to hospitals for treatment or operations. A few cases of blackwater fever occurred during the year at Mongalla, one of which proved fatal. A widespread epidemic of cerebro-spinal meningitis occurred in the Latuka district during the spring. The total number of cases reported was 395, and deaths amounted to 229, with a case mortality of 57 per cent. These figures are almost certainly an under-estimate of those who suffered from the disease, as a great number of cases were certainly not reported to the medical authorities. With the commencement of the rains the epidemic subsided, but with the failure of the later rains a slight return of the disease was reported in the Latuka and Rejaf districts. Two cases also occurred in Mongalla at the end of the year. Another epidemic of cerebro-spinal meningitis occurred in two Acholi villages in the Opari district. It is reported that the infection came from the Latuka district; seventy-six cases occurred and thirty-two died. Fortunately, the epidemic was localised and did not spread to other villages in the district. An epidemic of influenza was prevalent throughout the province; fifty-two deaths occurred at Yei and seventy in Kajo Kaji. Statistics are not available for other districts.

535. There are at present fifty-six leper patients at Yei, and fifty at Kajo Kaji in the leper camps, and a further thirty-six at Koja Kaji and twelve at Nimule being treated as out-patients. There has been no difficulty whatsoever in getting patients to come for treatment.

Nuba Mountains.

536. Mr. J. A. Gillan, who succeeded Major C. S. Northcote in the autumn, reports a satisfactory and uneventful year. A bumper grain crop in the south of the province in 1926–27 and heavy demands from the Northern Sudan led to great export activity, and the province grain was of material assistance in relieving the northern shortage. The 1927–28 crop is good in the north but disappointing in the south. There should be ample grain for local requirements, but not much exportable surplus.

537. The 1926–27 cotton crop was 26,700 small kantars of seed cotton. The estimate for 1927–28 is 50,000 kantars. Cotton has thoroughly established itself as a native crop in Kadugli district. At Talodi progress is slower but generally satisfactory. No great increase is to be anticipated in the north of the province. Ginning factories were completed at Talodi and Kadugli.

538. Arts and crafts and agricultural exhibitions were instituted in connexion with the annual district gatherings, and gave promise of successful development.

539. Satisfactory progress can again be recorded both in extension and improvement of motor roads. The most radical

alteration in the road system is the opening of a new road from Kadero viâ Benia to El Obeid. This will form part of what may shortly be the all-season road from Talodi viâ Delami to El Obeid. Sections of this road are already fit for all-season work, and it is hoped, though not certain, that sufficient work will be done before next rains to enable cars to get through under favourable conditions. Telegraphic communication with Kaka was opened.

540. The population of the province is recorded as 269,811, a large drop on previous figures. This is due to closer estimates. but in the circumstances of this province accurate estimates are still impossible. The figure given is probably on the conservative side. The material condition of the people is satisfactory, especially in the south, where cotton and export dura sales have brought them more money than they have ever had before. Politically the year has been one of peace and general contentment. Considerable progress has been made in indirect administration by the grant of powers to sheikhs and meks, and the results give good promise for the future.

541. Estimated expenditure is £E. 41,970 and revenue £E. 33,000. The deficit again shows a small but satisfactory decrease. Increased revenue is due to no particular item, but to a slight increase in many. The transfer of communities from tribute to poll tax continues as fast as staff and time for relisting allow.

542. Talodi has been generally recognised as unsuitable for a province headquarters on various grounds. The choice of a new site for some time engaged the attention of the Government, but no final decision had been taken at the close of the year.

543. Public security has been generally good considering the standard of civilisation of many of the people. Crimes of violence show a slight increase over 1926, but murder shows a decrease. There were no offences connected with kidnapping, slavery, &c., as against five in 1926. The tendency on a part of the general population to assist rather than obstruct Government in detection of crime and arrest of criminals continues to grow.

544. No new dispensaries were opened, but three have been approved for 1928. The people continue to show an increased appreciation of medical treatment when brought to their doors, but still hesitate to come in to hospitals from any distance except as a last resource. Several outbreaks of rabies occurred during the year, and a number of people were sent to Khartum for treatment. Five cases of blackwater fever among non-natives of the province were reported.

545. The Talodi building scheme was, of course, held up pending a decision regarding the move of the province headquarters site. At Kadugli a new building programme for officials' houses, &c., was approved, and construction is proceeding. The new fort and district offices were completed during the year. Improved houses for native officials at Dilling are in the course of construction.

546. There was a very brisk trade in grain for export in

the south. Increased spending power due to this and to cotton takings led to some improvement in the general retail trade at Talodi and Kadugli. Cattle trade was very slack, prices were low and there was practically no export. Most of the trade consisted of local transactions between the temporarily wealthy and the impoverished.

Red Sea.

547. Lieutenant-Colonel F. C. Balfour, C.I.E., M.C., who succeeded Mr. S. A. Tippetts as Governor, reports that good rains in the summer and autumn greatly improved the condition of the people, who had been approaching starvation after two years of drought.

548. The total area in the Tokar delta sown with cotton on the 1926 flood was 25,000 acres, of which 20,000 were well watered. The total crop was 101,116 small kantars, which was sold for £E. 169,286 at an average price of £E. 1·674 mms. per kantar. The highest price was £E. 1,915 mms. 45,000 acres were successfully sown on the 1927 flood. Locusts were very troublesome in the autumn, but did no very serious damage.

549. The cotton crop in the Khor Arbaat delta was poor.

550. The summer rains were generally good, and the areas of cultivation were greatly in excess of the past two years. Food crops in the Tokar district were, however, poor.

551. In extension of the experiment successfully made in 1926, a number of co-operative societies were formed at Tokar and were financed from the local combined fund reserve. Prospects of developing agricultural credit on the co-operative system are good.

552. The first year primary class of the Suakin school was transferred to Port Sudan, leaving only a third-year class at Suakin, where the primary school will probably die a natural death in 1930. Considerable progress was made in the provision of elementary Arabic education for the non-Arabic-speaking nomads.

553. The revenue for the year was £E. 6,300 in excess of the budget estimate, while the expenditure exceeded the budget estimate by £E. 1,085. The estimated budgetary deficit of £E. 11,327 was therefore reduced to £E. 6,112. Tokar cotton produced a revenue of £E. 36,010 as against £E. 26,500 estimated in the budget. There was a decline in revenue derived from traders' tax and tribute.

554. The number of ships using Port Sudan was 853, a total of 3,695,958 international tons. These figures continue to show an increase. The Missions to Seamen sent a chaplain to Port Sudan in December to report on the necessity for a station in the port.

555. The supply of labour at Port Sudan and Tokar was always well up to the demand. The demand for building land in Port Sudan has been maintained.

556. A second pipe-line was laid for the supply of water from

Khor Arbaat, and the volume of water reaching Port Sudan is now ample for all requirements and for development for some time to come.

557. A frontier incident in October between Hadendoa of the Sudan and Eritrean Beni Amer was satisfactorily settled in December by the sheikhs concerned under arrangements made between the Governor of Kassala Province and the Commissario of Agordat.

558. The pilgrimage quarantine at Suakin was taken over from the International Quarantine Board at the beginning of the year. The pilgrimage was "clean"; 1,647 pilgrims went to the Hejaz and 2,756 returned.

559. Public security was good on the whole. A scheme was submitted for the granting of magisterial powers to tribal leaders administering customary law.

560. His Britannic Majesty's agent and consul at Jeddah sent seventeen male and ten female manumitted slaves to Port Sudan for repatriation.

561. The results of the year's working at the Gabait gold mine were unsatisfactory owing to faults in the reef. A licence was taken out to reopen the gold mine at Onib. The Rawaya Salt Concession produced 4,953 tons of salt and 300 tons of gypsum, and Darra produced 2,534 tons of salt.

562. Public health was good throughout the year, and the nomad Arabs availed themselves in large numbers of the dispensaries provided in 1926.

563. The administration of Port Sudan Central Prison by the province referred to in last year's report has worked satisfactorily. The numbers in the prison at the end of the year were 384, and the daily figure for sick at the prison hospital was 2·3. There has been no epidemic of disease. Certain sanitary improvements in the dormitories are nearly completed; all prisoners who have had dysentery during the previous three years will be accommodated in one dormitory so as to minimise the risk of infection. The workshops have produced an unexpectedly high revenue. The quarry gang have provided large supplies of stone to the Public Works Department and for road making, while another gang has been employed on road making and on the construction of drains, which proved of great value during the rains.

Upper Nile.

564. The Governor reports that, with the good dura harvest of 1926, the year opened prosperously, but the lateness and partial failure of the rains changed the situation to one of indifference and, in some cases, hardship at the end of the year. The crops were disappointing, especially in the north of the province and among the Dinka in the extreme south. In the Shilluk area the cotton crop is estimated at less than half the 1926 crop. The markets in Renk district continue to operate, giving great encouragement to local producers whose prosperity is largely increased thereby.

565. Repairs to gauges and identification marks were done at different points on the river by the Irrigation Department of the Egyptian Government, and surveys were continued on the Bahr-el-Zeraf, Bahr-el-Gebel and Bahr-el-Ghazal Rivers. Dredging was carried out at Abo Tong cut.

566. Very satisfactory progress has been made in opening of roads during the year. There now exist 593 miles of road in the province, among them notably the roads from Kaka to Tonga and from the Khor Filus to Bor viâ Duk. Further development of roads is a matter of necessity for the administration and development of this large and very difficult area.

567. The people continue to be distinctly averse to education. Their attitude is instanced by the result of the last meeting of Shilluk chiefs on King's Day. The chiefs agreed to supply thirty children to each of the mission schools. They counted, however, without their people, who alleged that this was a new and intolerable form of tribute whereby the children would be lost to their parents as goat and cattle herds and would be taken away to Khartum or Wau; the parents then removed all their children from the mission schools *en bloc*. The matter has been readjusted, but, roughly speaking, no child will go to school until it is worth his parents' while.

568. Expenditure continues to be in excess of revenue, and this is bound to continue until the tribal organisation of the pagan population has been more firmly established and marketable goods produced.

569. The production of gum fell considerably, partly owing to lower prices, and partly owing to increased interest in dura, the price of which was very high. Gum production, through the nature of the work and the fact that it not a food product, does not appeal to the negroid. Efforts at reafforestation are being made, but they do not compensate yet for the fuel used. The principle being followed is that reafforestation should be done by the tribesmen rather than by Sudanese colonists from other districts, as has hitherto been the case.

570. Great stimulus was given to the establishment of chiefs' courts and chiefs' police, and the tribes, especially the Nuer, gave promise of acquiring a tribal organisation working under the ægis of and responsible to the Government. Resistance to the policy and that of opening up the country by means of roads grew up, however, among the kujur, or wizards, who saw in it loss of power and revenue to themselves. The first indication of active hostility was from Gwek Wonding in the Lau Nuer area. His propaganda against the Government during the year was sufficiently successful to warrant a patrol against him, and this was still in progress at the end of the year.

571. The number of fights amongst the natives has appreciably diminished. Among the Nuer and Dinka especially this can be attributed to the growth of chiefs' courts, which supply a more peaceable method of redress.

572. Statistics show an increase in the numbers of in- and

out-patients at practically all hospitals and dispensaries, especially Malakal Civil Hospital, the hospital ship "Lady Baker" and Abwong dispensary. Improvement in sanitation and anti-malarial work have been carried out, and travelling dispensaries in out-districts have been increased.

573. A new office and stores for the district commissioner at Fanjak, a post office at Kaka, and two Bollard quarters for employees at Malakal have been built in addition to minor extensions in Malakal, Kodok and Melut.

574. The usual outbreaks of cattle plague and pleuro-pneumonia occurred. There is reason to associate, at any rate some of them, with the movement of cattle-owning Arabs, who smuggle sick cattle into the province in the hope of selling them to the negroids.

White Nile.

575. The Governor reports a year of considerable hardship for the people, during which the total actual revenue fell to approximately £E. 58,096 as against £E. 72,914 for the previous year. The decrease is mainly due to the failure of 1926–27 rain crops and of part of the 1927 riverland grain crop. The province has now emerged from this trying time, but the reserves of the people were at one time reduced to vanishing point.

576. A state of famine was averted by ensuring the food supply of the people by the importation of grain and placing it on local markets at cost price. Work for the indigent able-bodied was also provided on digging reservoirs and excavation on the Dueim pumping scheme. The bulk of the population of the northern and central districts were saved from starvation (as well as their animals) by migrating in large numbers to the cotton irrigated area in the Blue Nile Province. The demand for labour at good wages enabled them to purchase the grain imported by Government, and the flocks and herds not only survived but even grew fat. Without this refuge the tragic famine of 1914 might have been repeated. The rains of 1927 have eased the situation enormously. Damage was done to grain in the north by locusts, and the central districts were not heavily enough watered, but the general harvest was good and the food supply assured until after next year's rains. In view of the necessity of growing food crops the area sown for money crops such as sesame and ground-nuts was largely reduced. An experiment in planting grain seed imported from the Blue Nile Province was successful, and annual distributions of this seed will be made.

577. Trade has been stagnant throughout the year, but this was inevitable in view of the prevailing conditions.

578. The existing motor roads in the province are cleared annually and native tracks running east and west from the river are widened so as to act as fire-lines as well as roads. In dry weather cars can now go almost anywhere in the province, though the going is at times rather rough.

579. A 14-inch pump has been installed at Dueim and 660 acres prepared for cultivation by landowners and cultivators of Dueim town. This winter wheat has been grown on some 220 acres and promises to produce a good crop. The first sakellarides cotton crop will be sown next July.

580. Considerable progress has been made in examining the various problems connected with the Jebel Aulia Dam project.

581. The policy of granting certain administrative powers to native authorities has proved a real success. Tribal chiefs have definite punitive authority; internal tribal cases and disputes are referred to and in general settled by them. There has been no case reported in which these powers have been gravely misused. Proposals are being prepared for the establishment of native courts with certain limited powers of imprisonment.

582. Public security has been satisfactory, and the police continue to discharge their duties efficiently. It is hoped with the establishment of native courts to reduce gradually the police strength and substitute local unarmed native administration police.

583. Education continues to make steady progress, and El Dueim primary school is well attended. The girls' school at El Dueim is so far a great success, and a new Government school at Geteina has been started. The standard of education of the native "fikis" in charge of them is low, but the system is admirably suited to the needs of the people.

584. General health and sanitation have been satisfactory, and there was very little malaria. The bilharzia campaign continued, but in modified form. The total number of cases who completed treatment for bilharzia was 2,310.

585. Twenty reservoirs for water of a total capacity of approximately 16,321 cubic metres were excavated during the year, and six new wells were dug in the central district. A new Government bore has been started at Tendelti, and the existing railway bore has been cleaned out. It is proposed to make a a railway bore at Um Kueika. In connexion with the bilharzia campaign wells are to be dug in populous centres near the river to provide non-contaminated water supply.

586. A scheme of reafforestation by the planting of "sunt" trees was carried out over 400 acres of land.

Chapter XV.—Game Preservation.

587. The revenue from the sale of licences, fees on animals killed, &c., amounted to £E. 5,471 against an expenditure of £E. 5,451. Returns of game killed during the year show a total of 1,817 head of game killed by 201 rifles.

588. A tragic accident occurred in February, Count Lazlo Hunyadi, an Austrian visitor, succumbing to injuries received from a wounded lion in the Bahr-el-Ghazal. Lord Egerton of Tatton was slightly mauled by a leopard on the Dinder River.

589. A new Game Ordinance was drafted and passed by Council during the year. The cost of the "A" licence was raised to £E. 60. Several additions were made to the list of completely-protected animals, including both species of rhinoceros and the giraffe. The use of aeroplanes, motor-cars and artificial lights in the pursuit of game has been prohibited. Non-natives of the Sudan must obtain special permission to capture animals.

590. During the year 54,697 people visited the zoological gardens; this is an increase of nearly 4,000 on last year. A grant of £E. 400 was received from the Central Government for improvements in the gardens. Further alterations and improvements were made through the generosity of visitors subscribing to the zoological gardens fund. Several new specimens were added to the collection, including a hippopotamus, two Bactrian camels, also birds and lemurs from the Giza Zoological Gardens in Cairo. A valuable consignment of animals was shipped from Port Sudan to the United States of America.

591. Game of all kinds seems to be as abundant as ever throughout the Bahr-el-Ghazal. Owing to the annual slaughter of elephants to feed the men working in the gold mines of the Belgian Congo, a considerable number of dead elephants have been found in the Yei district of Mongalla. The regulations for the control of the killing of elephants by natives in Mongalla Province, introduced last year, appear to be working very satisfactorily. The reserve has been extended to include the district of Kajo Kaji.

592. An armed gang of elephant poachers from Abyssinia was dispersed by the Eastern Arab Corps in Kassala Province. In the Fung Province shots were exchanged between the Dinder police patrol and a band of poachers from Gedaref, one poacher being killed and four captured.

593. The amount of game has been considerably reduced in Kordofan Province by natives in possession of rifles.

594. The ibex which were liberated in the Shabluka hills in Khartum Province are continuing to increase.

595. The game warden visited the Dinder River, the Setit and the eastern game reserve. Game was found to be fairly plentiful, but it was found necessary to limit the number of permits to shoot annually on these rivers. Later a tour was made through Kordofan and North-Western Darfur. Addax and oryx were found to be plentiful, though the former are subjected to much persecution by natives from French Equatorial Africa.

Chapter XVI.—Stores and Ordnance.

596. Prices of all classes of stores generally maintained a steady level throughout the period under review. Cotton piece-goods arriving early in the year showed an appreciable fall in price as a result of the slump in raw cotton at the end of 1926, but the market quickly recovered to normal. Although prices ruling for

leather, during the early part of 1927, were lower than at any period since the great war, the market underwent a decided change by the autumn owing to a world-wide shortage of raw hides. Prices increased with unprecedented rapidity to 50 per cent. above those ruling just over a year ago. Although fluctuations in the prices of raw materials may occur, it is inevitable that the level of leather prices during 1928 will be substantially above that ruling in the past few years.

597. The value of stores issued to departments, provinces and the Sudan Defence Force for the year 1927 was approximately £E. 190,000.

598. All stations throughout the country garrisoned by Sudan Defence Force or civil police were visited by British armourers during the winter 1926–27, and all arms were inspected. A new rifle-testing range was erected during 1927 and installed with the latest type of apparatus obtained through the War Office, London. Ten native soldiers were accepted for a twelve-months course of training as armourers and awarded second-class certificates.

599. The department's sale section established for the purpose of supplying Government officials with articles of camp equipment, trekking kit, &c., disposed of stores to the value of £E. 8,988. The workshops were busily employed throughout the year in the manufacture of Government requirements, and turned out articles to the value of £E. 32,000, returning the satisfactory net profit of £E. 3,600 on the year's work.

600. The end of March 1927 marked the third completed year of the printing agreement with Messrs. McCorquodale and Co. (Sudan), (Limited). Printing demands are increasing in proportion to the normal expansion of the Government. The amount refunded to Government as rebate from profits on the printing factory for the year ending the 31st March, 1927, was £E. 2,895.

601. The Stores and Ordnance Department, being recently formed, has been able to organise a system of stock control on modern lines, and the question of absorbing smaller stores units of the Government with a view to economy and efficiency is now under consideration.

Chapter XVII.—Surveys.

Topographical.

602. The triangulation in the southern part of Mongalla Province referred to in the report for last year was continued and a further 3,000 square miles of country were mapped. This is still being carried on and the next edition of the maps of the province will show a marked improvement on the existing sheets.

603. A reconnaissance of the country lying between the White Nile and the Wadi Mugaddam in the White Nile Province was carried out with a view to determining if it would be possible to divert surplus water from the river to this wadi. The result showed that this would not be possible by any of the routes examined

without incurring heavy expenditure, as a definite watershed would have to be crossed.

604. Steady progress was made in the revision of the topographical maps of the country, and much valuable topographical information was received from officials in the provinces and from other Government Departments and incorporated in the new sheets. The output of the drafting section was satisfactory; the revision of the 1 : 3,000,000 map of the Sudan was completed and the drawings forwarded to London for reproduction by the War Office. Twenty-six sheets of the quarter-million series were recompiled and published, 154 special maps and drawings, some of considerable size, were made, and a triangulation chart covering the whole Sudan was prepared and printed for record purposes. In addition to the revision of the topographical information the revision of the orthography of the place names shown on the official series of maps was also commenced in accordance with the new rules published by the Permanent Committee on Geographical Names which works under the auspices of the Royal Geographical Society. When this has been completed the revision of the "Index Gazetteer" of the Sudan will be undertaken.

Cadastral.

605. The principal effort of the year in this section was directed to the production of the contoured maps of the area contoured in the Gezira during the previous field season. Forty sheets of the 1 : 20,000 series, covering 637,400 acres were drawn and reproduced, each of these sheets shows about 300 spot levels with contour lines of half-metre vertical intervals. Five sheets of the 1 : 100,000 series covering 1,634,500 acres and one sheet of the 1 : 50,000 series were also compiled and published. The standard of work shows an improvement on last year as a result of the steady practice and supervision. The Geteina river-land resurvey was continued; 255 plans representing 7,650 plots, covering 60,690 acres, were compiled and areas of plots computed; a key map on a scale of 1 : 10,000 has been commenced. The sheets of the revised contoured map of the Tokar Delta, covering 348,770 acres and showing 2,924 spot levels, were drawn and published, and numerous special plans have been produced for various Government Departments and for the public.

Town Surveys.

606. The chief town surveyor's staff has been reorganised with the object of releasing the chief town surveyor from routine work in Omdurman and enabling him effectively to supervise the work of town surveyors, both at headquarters and in the provinces. A small travelling staff has also been formed to carry out new town surveys or for despatch to towns where the normal maintenance has fallen into arrears. New surveys have been made of the towns of Geteina, Talodi and Kadugli, extensions have been made to Port Sudan, Atbara and Wad Medani town surveys, several

new suk surveys have been carried out and the various town plans throughout the country have been kept up to date. A number of demands for surveys have had to be postponed for lack of trained staff to carry them out.

Gezira Contour Survey.

607. The rate of progress was maintained satisfactorily in spite of the fact that, since the area to be contoured had passed beyond the limits of the beaconed area, it was necessary to detach one inspector and his party from the contouring to extend the beacon survey. A total area of 892,000 acres was close contoured, and the survey has disclosed that it will be possible to command a slightly greater area than was at first anticipated. The rigid survey of the canalised area is progressing steadily but slowly owing to the necessity for a double survey. The first survey is required to enable the Irrigation Department to determine the positions of drainage lines of each system, to confirm or alter the original positions of the permanent marks, and to solve other questions which cannot be settled without an accurate and detailed map. When all these questions have been dealt with the area is then resurveyed. The first survey of about 10,000 acres has been completed and 3,000 acres have been resurveyed.

Printing and Mapping Section.

608. A new machine for regraining zinc plates was installed in April and has been used successfully. The cost of regraining each plate is rather less than one-third of the previous cost to the department, and the results have been excellent. During the year over 24,000 maps, diagrams and sketches were printed, the total value of which was £E. 1,343. The total number of zinc plates now ready from which copies can be printed at any time is 671.

Land Settlement.

609. The land settlement of the Kawa district of the White Nile Province has been completed, and the Geteina district settlement is still in progress. A settlement of the riverain lands of Shendi district of Berber Province was carried out, and a revision of the cadastral survey of El-Damer district in the same province is being made.

Provinces.

610. The cadastral plans in the various provinces have been kept up to date and the usual maintenance surveys carried out, including those of several new pumping schemes. Mission stations surveys were made of the stations at Lui, Lerua, Melut, Lul, Detwok, Doleib Hill, Rom, Nasser and Tonga, and plans supplied to the Director of Lands for attachment to the respective leases.

Survey School.

611. A school of instruction was again held at Sinkat during the leave season in the hot weather, and twenty-six officials attended as against thirteen in the previous year.

Chapter XVIII.—Public Works.

General.

612. The year has been noticeable for a very considerable expansion in the activities of this department. Not only was there a widening in the range of work, but the actual volume of work carried out was the greatest for many years past. Reorganisation and the strengthening of the executive staff helped to make this possible; but the resources of the department were taxed to the utmost. Excluding all purely accounting debits, such as transfers of funds from suspense account and interest and renewals charges on water supply schemes, the expenditure incurred in 1927 amounted to £E. 486,074 as compared with £E. 330,682 in 1926. The revenue collected through departmental agencies during 1927 amounted to £E. 18,888 as compared with £E. 15,738 in 1926.

Maintenance of Buildings.

613. The upkeep and maintenance of Government buildings was carried out at a cost of £E. 50,640. Of this sum £E. 22,520 was expended on the upkeep and maintenance of buildings in the occupation of the Sudan Defence Force and of British troops.

New Buildings.

614. The total expenditure on new buildings, other than those for the occupation of British troops, amounted to £E. 219,107 as compared with £E. 145,632 in 1926. The General Post Office, Khartum, which was commenced at the end of 1926, made good progress, and by the end of December the heavy work had been completed; much, however, remains to be done in the matter of internal fittings and equipment. This building will be one of the features of Khartum. It is a large two-storey building, having a front elevation 351 feet long and 52 feet high. There are two end wings, and under one of these there is a large basement. The architecture is of the Roman Doric order.

615. Another noteworthy building now being erected in Khartum is the Lee Stack Memorial Research Laboratory. In design it is a replica of the Kitchener School of Medicine, which it faces across Victoria Avenue. The accommodation comprises six working laboratories, a laboratory museum, offices and stores. Provision is also made for the installation of a gas plant. The cost of this project is estimated at £E. 18,820, and had there not been serious delays in the delivery of the steelwork it would by now have been nearing completion. As it is, it is not expected to be finished until August 1928.

616. During the year a considerable amount of work was in progress for the Medical Department, including the reconstruction of buildings in the Suakin Quarantine Camp, the construction of a new hospital at El Fasher, and of an out-patients' block at Port Sudan, and additions and improvements to hospitals at El Obeid and elsewhere. Many administrative buildings were also erected, the most important being district offices at Wad Medani, Rufaa and Nahud. Various buildings were also erected for the Agriculture and Veterinary Departments. Twenty-eight quarters were built for British officials. Of these, five senior-type quarters and six junior type have been erected in Khartum as an extension of the housing scheme, but even so the demand for housing in Khartum is far from being met. Quarters were also built for non-British officials such as mamurs, accountants, clerks, dispensers and postal employees in various parts of the Sudan.

617. Various buildings were erected to improve the accommodation of British troops during the year. The most important of these was a new hospital in the barracks at Khartum (£E. 27,476), and had it not been for the great delay in the delivery of the steelwork which delayed the work for five months, it would have been completed by the end of the year. Other major works were the reconstruction of certain buildings in the barracks at Khartum North (£E. 9,471), the erection of a regimental institute at Khartum North (£E. 8,520) and the conversion of a building for a regimental institute at El Obeid (£E. 900).

Water Supplies.

618. A considerable amount of work was carried out on the Port Sudan water supply scheme. In order to augment the supply, three new intake wells were sunk in the Khor Arbaat and a connexion laid therefrom to the original headworks; also an additional main was laid, from a point about 1 mile below the original headworks, to Port Sudan. These works were estimated to cost £E. 42,669 and by the end of June had been so far completed as to allow of the augmented supply being given. Further works for safeguarding the continuity of the supply and facilitating the distribution were also undertaken, the most important being the construction at Port Sudan of an underground storage tank of 5,000 metric tons capacity; the cost of these further works was estimated at £E. 15,512 and by the end of the year they were almost complete. Tests have shown that the duplicated mains will deliver some 2,400 metric tons of water daily, which is more than was anticipated and very considerably in excess of present demand. The actual demand for water was disappointing. Although the extra supply led to a temporary increase, this was not maintained. The total revenue collected during the year amounted to £E. 11,279. As the total cost of the scheme as at present laid down will amount to £E. 111,000, a considerable increase in demand must be created before the scheme will meet the annual recurrent charges and those for renewals and interest. It is hoped that this extra demand

will come from shipping when the excellent quality of the Port Sudan water is better known.

619. Much work was also done on the Tokar water supply, and the scheme, now estimated to cost £E. 28,240, was almost complete by the end of the year. This is a pumping scheme, the water being lifted from deep wells at Krimbit, 12 miles away, and then pumped into distribution tanks at Tokar. In a scheme of this sort the recurrent charges must necessarily be high and it has been found very difficult to fix a selling rate, low enough to encourage a free use of the water, which will ensure a reasonable return on capital cost. A certain amount of water was available for distribution in the latter part of the year and it proved to be of far better quality than that on which the local inhabitants had formerly depended.

620. In Kordofan further work was done on the deep well-boring schemes. New bores were sunk with success at Suk-el-Gamal and on the Abu Khereis road, north of El Obeid. Duplicate bores were sunk at Wad Banda and at Khamaz. A further bore, giving a yield of well over 1,000 gallons an hour, was sunk near the British barracks at El Obeid. The distribution scheme for El Obeid which allows for collection to a central pumping station, chlorination, and distribution from a high-level tank was completed.

Roads.

621. A large amount of survey and reconnaissance work was done in Mongalla Province by the newly appointed road engineer. Detailed surveys and estimates were made for a road from Rajaf to Nimule, mostly following the existing *tracé*, and a reconnaissance was made of a new route which would avoid some of the major bridging. A reconnaissance was also made of the Rejaf–Torit–Ikotos road and a *tracé* was selected and pegged out for the Juba Dikalla road. Work on the last-named road is already in hand, but the other projects are in abeyance pending the settlement of questions of policy and finance.

Civil Motor Transport.

622. The agency service for this continued to be handled by the department. It comprises the purchase and delivery of vehicles, the supply of spare parts and the undertaking of major repairs. The work has increased very greatly. There are now over 300 cars in commission and with the increase of numbers and the gradual change over to geared-change cars, the extent of the work is quickly outrunning the capacity of the present organisation. It will be necessary either to strengthen it or to make new arrangements.

APPENDICES.

Appendix (I).

Table 1.—General Survey of Financial Position.

	1923.	1924.	1925.	1926.	1927.	1928 Budget
Revenue.	£E.	£E.	£E.	£E.	£E.	£E.
I. Normal administrative revenue	1,969,916	2,311,653	2,289,609	2,153,764	2,159,848	2,188,705
II. Receipts from Government commercial undertakings (pumping scheme and ginning factories in connexion with cotton cultivation, forage farms, water supply schemes and public utility services	80,690	123,476	105,124	135,014	117,933	150,695
III. Irrigation Department receipts	..	..	..	703,212	721,411	792,000
IV. Railways and steamers receipts	1,715,527	1,863,727	1,909,650	2,115,999	2,180,753	2,096,600
	3,766,133	4,298,856	4,304,383	5,107,989	5,179,945	5,228,000
V. Contribution from Egyptian Government ..	..	..	562,500	750,000	750,000	750,000
Total revenue ..	3,766,133	4,298,856	4,866,883	5,857,989	5,929,945	5,978,000
Expenditure.						
VI. Normal administrative expenditure (excluding war bonus and assisted passage for railway personnel) .	1,971,616	1,908,685	1,929,828	2,069,130	2,203,922	2,458,383
VII. Expenditure on Government commercial undertakings detailed under II above	65,911	108,445	91,348	100,319	107,542	154,241
VIII. Irrigation expenditure—						
(*a.*) General and current expenses	..	..	..	116,846	119,098	153,662
(*b.*) Rent of lands ..	..	..	..	30,602	33,432	34,760
(*c.*) Interest on loans ..	5,083	6,360	7,193	571,477	568,881	582,878
(*d.*) Allotments to special Geziru reserve ..	72,078	202,000	152,000	50,000	..	..
Total VIII ..	77,161	208,360	159,193	768,925	721,411	771,300

	1923.	1924.	1925.	1926.	1927.	1928 Budget.
Expenditure—(contd.)	£E.	£E.	£E.	£E.	£E.	£E.
IX. Railways and steamers expenditure (including war bonus, assisted passage, pensions and gratuities of personnel)—						
(*a.*) Current expenditure..	991,127	925,841	1,031,747	1,132,983	1,180,451	1,313,020
(*b.*) Relaying and renewals ..	260,000	260,005	260,000	260,550	299,360	299,360
.) Capital improvements fund	..	..	130,000	211,950	135,000	50,000
(*d.*) Interest on loans ..	26,655	41,937	100,074	102,469	130,978	131,373
(*e.*) Other appropriations..	..	..	..	6,097	6,347	..
Total IX	1,277,782	1,227,783	1,521.821	1,714,049	1,752,136	1,793,753
X. Military expenditure ..	..	..	673,480*	789,965	765,482	800,323
XI. Miscellaneous.. ..	..	..	..	40,000†	..	..
Total expenditure .	3,392,470	3,453,273	4,375,670	5,482,388	5,550,493	5,978,000
XII.—(*a.*) Surplus of revenue over expenditure transferred to general reserve fund .	373,663	845,583	491,213	375,601	379,452	..
(*b.*) Direct credits to general reserve fund	66,291	23,034	84,912	87,006	‡150,534	..
Total XII	439,954	868,617	576,125	462,607	529,986	..
XIII. Allotments from general reserve fund for non-recurrent expenditure for the succeeding year (*less* amounts since cancelled) ..	227,942	509,600	679,881	579,536	502,652	..
XIV. Net decrease or increase in unallocated balance of general reserve fund (difference between XII and XIII)	+212,012	+ 359,017	−103,756	−116,929	+27,334	..

* Ten months only. † Special provision for losses on Dura account.

‡ This figure includes sums of £ E. 21,317 and £ E. 16,644, representing the balance of the Dura Reserve and the Rain Grown Cotton Reserve respectively.

TABLE 2.—COMPARATIVE STATEMENT OF FINANCES FOR 1926 AND 1927: RECEIPTS.

Revenue.

—	1926.		1927.	
Provinces—	£E.	£E.	£E.	£E.
Land tax—				
(*a.*) Taxed land	38,344		43,181	
(*b.*) Ushur	92,535		79,850	
Date tax	25,843		24,017	
Poll and hut tax	56,822		58,094	
Animal tax	165,605		152,793	
Tribute	34,432		52,836	
Traders' tax	37,261		...	
Traders' licences and business profits tax	...		32,332	
Royalties on gum, ivory, &c. ...	180,079		168,033	
Timber and firewood	46,915		50,487	
Rent from Government land and properties	66,911		105,581	
Miscellaneous	99,421		112,704	
		844,168		879,908
Departments—				
Customs Department ...	555,016		579,758	
Posts and Telegraphs Department	142,206		146,355	
Agriculture and Forests Department...	109,260		91,711	
Veterinary Department ...	8,720		6,419	
Legal Department	23,006		20,579	
General Central Services ...	517,560		461,249	
Other Departments and Services	88,842		91,802	
		1,444,610		1,397,873
Total receipts of Departments and provinces	...	2,288,778	....	2,277,781
Railways and Steamers ...	...	2,115,999	...	2,180,753
Irrigation (Gezira Scheme) ...	...	703,212	...	721,411
Contribution from Egyptian Government	...	750,000	...	750,000
Total	...	5,857,989		5,929,945

Expenditure.

—	1926.		1927.	
Provinces—	£E.	£E.	£E.	£E.
Expenditure	819,508		858,628	
Passage allowance and transport facilities	21,282		23,563	
		840,790		882,191
Departments and Services—				
Audit	7,058		8,132	
Central Economic Board ...	7,369		7,562	
Civil Secretary's Office ...	28,435		29,726	
Customs Department ...	38,776		39,113	
Education Department ...	105,213		141,314	
Finance Department ..	59,164		61,337	
Game Preservation Department	4,293		5,052	
General Central Services ...	281,399		183,561	
Governor-General's Office and Council	21,179		25,708	
Intelligence Department ...	21,170		18,810	
Legal Department	92,627		92,297	
Posts and Telegraphs Department	187,960		187,902	
Public Works Department ...	107,399		125,188	
Stores and Ordnance ...	25,167		27,964	
Sudan Agent	9,246		8,743	
Sudan Medical Service ...	147,006		180,803	
Surveys Department ...	33,773		38,206	
Veterinary Department ...	41,907		39,620	
Agriculture Department ...	150,388		152,763	
Passage allowance and transport facilities	49,130		55,472	
		1,418,659		1,429,273
Total expenditure of provinces and Departments	...	2,259,449	...	2,311,464
Railways and Steamers Department	...	1,714,049	...	1,752,136
Irrigation (Gezira Scheme) ...	...	718,925	...	721,411
Sudan Defence Force	...	789,965	...	765,482
Total	...	5,482,388	...	5,550,493

Appendix (II).

Reserve Fund Situation, 1927–28.

		£E.
	Unallocated Balance as shown in Report for 1926 (Cmd. 2991) ...	486,982
	Add—	
	Amount previously allotted for various services which have since been either definitely approved or abandoned	220,509
	Total available for allotment	707,491
Vote No.	*Subsequent Votes in* 1927.	£E.
554.	Compensation in connexion with a new site for the Church Missionary Society Intermediate School in Yei district	2,100
555.	Purchase of land in Managil district—Blue Nile Province	5,000
556.	For the erection of three small "up-country" ginning units at Yei, Shukali and Meridi at a combined cost of £E. 14,500, of which £5,500 is to be met from the £E. 18,500 approved against Reserve Fund Item 518 for ginning factory at Yei...	9,000
557.	Installation and maintenance of ceiling fans in Government quarters in Khartum, Khartum North and Omdurman	3,000
558.	Public Works programme, 1927–28	110,000
559.	Dueim pumping scheme	6,400
560.	Plant and Machinery—Khartum North Workshops—Stores and Ordnance Department	4,000
561.	Posts and Telegraphs capital expenditure demands, 1927	19,610
562.	Roads	3,000
563.	Rearmament Khartum Province Police	1,700
564.	Haffirs digging and opening wells in Khartum, Nuba Mountains and Kordofan Provinces	2,000
565.	Purchase of a pumping installation for Suk-el-Gamal and to meet charges for transporting the rigs in readiness for next year's work in connexion with well-boring programme, 1927–28	2,000
566.	Atbara ginning factory extension (supplementary vote)	2,138
567.	Khartum–Kisumu air service	731
568.	Grant in connexion with the proposed Language Conference to be held at Rejaf in April next ...	1,500
569.	Mongalla famine precautions	3,000
570.	Juba move (part cost)	10,000
571.	New engines for Nuri pumping station	8,300
572.	Roads and water supply (advance grant for 1928 programme)...	1,000
573.	Part provision for cost of irrigation works in the Gezira Concession of the Kassala Cotton Company (Limited)	50,000
574.	Provision for the fixed capital of the southern rain-grown cotton scheme	30,000
575.	Supplementary grant for well-boring programme, 1927–28	8,190
576.	Advance grant for building programme, 1928–29 ...	5,000
		287,669
	Unallocated balance on December 31, 1927 ...	419,822

Reserve Fund Situation, 1927–28—(continued).

		£E.	£E.
1.	Interest gained on suspense balance in 1927, cancelled credits and various minor receipts ...	*112,573	
2.	Budget surplus, 1927	379,452	
3.	Transfers approved by Council at its 277th Meeting:—	£E.	
	(*a.*) Balance of Dura reserve ...	21,317	
	(*b.*) Balance of rain-grown cotton reserve	16,644	
		37,961	529,986
	Total sum available for allotment		949,808

* This figure does not include the sum of £ E. 56,688, representing Local Provincial Service Reserves, which, for accounting purposes, have been credited to the General Reserve Fund and revoted out of that fund.

Votes in 1928.

Vote No.	*Votes already approved.*	£E.	£E.
572.	Roads and water supply (final grant)	9,000	
576.	Building programme, 1928–29 (final grant) ...	155,000	
577.	Additional accommodation for British troops ...	5,000	
578.	Mongalla famine relief	17,000	
579.	Mechanical transport for Provinces and Departments	4,000	
580.	Supplementary grant for Khor Arbaat and Port Sudan water supply schemes	5,500	
581.	Supplementary grant for Tokar water supply scheme	4,000	
582.	Sudd region enquiry	5,500	
583.	Grant to Imperial College of Tropical Agriculture, Trinidad	500	
584.	Rearmament of police	4,000	
585.	Contingencies and various minor services... ...	26,000	
586.	Allocation to working cash balance reserve ...	50,000	
587.	Part cost of masonry aprons, Sennar Dam... ...	80,000	
588.	Supplementary vote for Talodi and Kadugli ginning factories	8.000	
589.	Posts, Telegraphs and Telephone development ...	5,000	
590.	Miscellaneous expenditure in connexion with the Sudan Light and Power Company's agreement...	6,422	
570.	Additional grant for Juba move	57,730	
			442,652
	Balance		507,156
	Other demands previously approved, but subject to further detailed examination		60,000
	Unallocated balance		447,156

Appendix (III).

Sudan Loans.

(A.) The following loans have been raised by the Sudan Government :—

1. £6,380,000 sterling 5½ per cent. Guaranteed Bonds, being the amount required (at the respective issue prices of the two issues referred to below) to raise £6 million sterling.

Of these, £3,500,000 sterling were issued in October 1919 at 95½ per cent., and the balance (£2,880,000 sterling) in February 1921 at 92. The interest on these bonds is guaranteed by the Imperial Government under the authority of "The Government of the Sudan Loan Act, 1919." The bonds are bearer bonds redeemable at £105 sterling by annual drawings during the period 1929–59, the Sudan Government reserving the right, on giving three months' notice to the public, to redeem at £105 sterling at any time on or after the 1st November, 1939, any outstanding balance of the Loan. The bonds are an investment authorised by "The Trustees Act, 1893," and are secured on the general revenues and assets of the Sudan with priority over subsequent charges. Interest is payable half-yearly on the 1st May and the 1st November.

Out of the proceeds of the above issues, a sum of £700,000 sterling was reserved to meet expenditure on the Sudan Government Railways, and £400,000 sterling was advanced to the Sudan Plantations Syndicate, Limited, for buildings, &c., to be constructed in connection with the Gezira scheme. The balance was applied to expenditure on the dam at Makwar and canalisation of the Gezira plain.

Under the revised Agreement with the Syndicate the advance of £400,000 is repayable to the Government at six months' notice.

2. £3,763,400 sterling 4½ per cent. Guaranteed Stock, being the amount (at the original issue price of 93) sufficient to raise a sum of £3,500,000 sterling. £3,250,000 sterling was issued in January 1923 at 93, and the balance, £513,400, was sold in May 1924 at 95½. The proceeds of this loan have also been applied to the above-mentioned irrigation works. Both the principal and interest of this stock are guaranteed by the Imperial Government under the authority of "The Trade Facilities and Loans Guarantee Act, 1922." The stock is redeemable over the years 1939 to 1973 by means of a cumulative sinking fund to be applied in the purchase of stock at or under par, or in the redemption at par of stock, is an investment authorised by "The Trustees Act, 1893," and is secured upon the general revenues and assets of the Sudan Government, with priority over any charges thereon not existing on the 14th May, 1922. Interest is payable half-yearly on the 1st February and the 1st August.

3. Four per cent. Guaranteed Stock. Issued £1,500,000 sterling. This was issued in November 1924 at 86, and forms part

of a total authorised issue of an amount sufficient, together with the proceeds of the above 4½ per cent. loan, to raise a total amount of £7,000,000 to complete the expenditure upon the above-mentioned works. The payment of the principal and interest of the stock is guaranteed by the Imperial Government under the authority of "The Trade Facilities Act, 1924." The stock is secured upon the general revenues and assets of the Government of the Sudan with priority over any charges thereon not existing on the 14th May, 1922, except those in respect of the existing £3,763,400, Sudan Government 4½ per cent. Guaranteed Stock, 1939–73, with which it ranks *pari passu*.

The stock is redeemable over the years 1950 to 1974 by means of a cumulative sinking fund to be applied in the purchase of stock at or under par or in the redemption at par of stock selected in sums of £100 sterling by drawings. Interest is payable half-yearly on the 10th May and 10th November.

The above loans have been issued mainly for the purpose of financing the Gezira irrigation project.

The position as regards expenditure on these projects on the 31st December, 1927, may be summarised as follows :—

Date of Issue.	Issued.	Price of Issue.	Net Proceeds.
	£ sterling.		£ sterling.
October 1919...	3,500,000	5½ per Cent. Guaranteed Bonds, 95½ per cent.	3,342,500
February 1921	2,880,000	5½ per Cent. Guaranteed Bonds, 92 per cent....	2,649,600
January 1923	3,250,000	4½ per Cent. Guaranteed Stock, 93 per cent....	3,022,500
May 1924 ...	513,400	4½ per Cent. Guaranteed Stock, 95½ per cent.	489,012
November 1924	1,500,000	4 per Cent. Guaranteed Stock, 86 per cent.	1,290,000
			10,793,612
	Sudan Government current account balance ...		1,879,343
			12,672,955

Application of expenditure:—		£ sterling.
Sudan Government railways extension		700,000
Loan to Sudan Plantations Syndicate		400,000
Cost of issue, advertisements and stamp duty on:—		
	£	
5½ per Cent. Loan	192,210	
4½ per Cent. Loan	46,155	
4 per Cent. Loan	21,289	
		259,654
Gezira irrigation project:—		
Expenditure to the 31st December, 1926, Sennar dam and canalisation, other Government services, and interest ...		11,313,301
		12,672,955

(B.) The Sudan Government is responsible for the service of the Debenture Stock issues mentioned below which have been made by construction companies in which the Government is the sole shareholder.

1. *Kassala Railway Company (Ltd.).*

Formed for the construction of a branch line from Haiya Junction on the Port Sudan–Atbara Railway to Kassala. This line is operated under a working agreement by the Sudan Government Railways Department as part of its system.

Ordinary share capital :—

Authorised ... £300,000 in £1 shares.
Issued ... 300,000 shares fully paid.

These shares were subscribed for by the Kassala Cotton Company, Ltd., and transferred to the Sudan Government as part of the consideration for the company's concession.

4½ per cent. Guaranteed Debenture Stock (1934–53) :—

Principal and interest guaranteed by His Majesty's Government under "The Trade Facilities Act, 1921."

Authorised ... £1,500,000.
Issued ... £1,290,000 in January 1923 at 93.
£150,000 in January 1927 at 91.

Expenditure on the construction and equipment of the Kassala Railway is estimated to work out at £1,050,000. The balance of the funds raised is to be utilised for "General Railway Purposes." The position is as shown below :—

	£ s. d.	£ s. d.
(1.) Proceeds of 1st issue, £1,290,000 at 93 ...	1,199,700 0 0	
Less cost of issue ...	25,995 5 3	
		1,173,704 14 9
(2.) Proceeds of 2nd issue, £150,000 at 91	136,500 0 0	
Less cost of issue ...	683 10 0	
		135,816 10 0
(3.) Total net proceeds		1,309,521 4 9
(4.) Estimated capital expenditure on Kassala line on loan account		1,052,467 0 0
(5.) Estimated net balance available for general railway purposes		257,054 4 9

2. *Sudan Construction and Equipment Company, Ltd.*

Formed for the following purposes :—

(*a.*) Purchase of railway rolling-stock for the Sudan Government Railways to provide for increased traffic on the inauguration of the Gezira irrigation scheme.

(*b.*) Extension of quays and provision of equipment at Port Sudan.

(*c.*) Construction of water works for Port Sudan.

The assets are leased to the Sudan Government under a hire purchase agreement which provides for the necessary payments to meet interest and sinking fund payments on the company's debenture stock.

Ordinary share capital :—

Authorised ... £10 in shares of £1 each.
Issued ... 10 shares fully paid.

4½ per cent. Guaranteed Debenture Stock (1931–45) :—

Principal and interest guaranteed by His Majesty's Government under "The Trade Facilities Acts, 1921–24."

Authorised .. £540,000.
Issued ... £540,000 at 96½ in February 1925.

3. *The Gedaref Railway and Development Company (Ltd.).*

This company was formed in November 1926 for the following purposes, *inter alia* :—

(*a.*) The construction, equipment and operation in the Sudan of a railway line of about 135 miles in length from the present railhead at Kassala to Gedaref.

(*b.*) The construction of further railways and the provision of plant and material for railways, ginning factories, pumping installations, and also in connection with the extension of irrigation works in the Gezira and various other development projects of the Sudan Government.

The assets are to be leased to the Sudan Government under a hire purchase agreement which provides for the necessary payments to meet interest and sinking fund instalments on the Company's Debenture Stock.

Ordinary share capital :—

Authorised ... £100 in shares of £1 each.
Issued ... 100 shares fully paid.

5 per cent. Guaranteed Debenture Stock (1932–62) :—

Principal and interest guaranteed by His Majesty's Government under "The Trade Facilities Acts, 1921–26."

Authorised ... £2,160,000.
Issued ... 2,160,000 at 100½ in February 1927.

(C.) The Sudan Government is also interested in the company mentioned below and has guaranteed the service of its Debenture Stock.

4. *The Sudan Light and Power Company (Ltd.).*

This company was formed in 1925 to take over and manage, on behalf of the Sudan Government, the existing water works, electricity and ice supply works and steam tramway and ferries in

Khartum, Khartum North and Omdurman, to undertake extension of the above, to build a bridge between Khartum and Omdurman and to electrify the tramway system. The whole of the existing undertakings, together with all improvements, extensions or new works specified above, remain the property of the Sudan Government, while the company is entitled, during the period of the agreement, which is for thirty years, to a share of the net profit on working after providing for the service of the debentures. The company, as part of its agreement, had to provide the necessary capital by making the issues referred to below :—

Ordinary share capital :—

Authorised ... 356,000 shares of £1 each, £356,000.

Issued—		£	s.	d.
5,007 shares fully paid ...	...	5,007	0	0
50,000 ,, 1s. paid up ...	...	2,500	0	0
299,493 ,, 17s. ,, ,, ...	...	254,569	1	0
354,500		262,076	1	0

5 per Cent. Guaranteed Mortgage Debenture Stock (1931–55) :—

Principal and interest guaranteed by His Majesty's Government under "The Trade Facilities Acts, 1921–25."

Authorised ... £400,000.
Issued ... £400,000 at 97.

SUDAN LOANS.—*Summary of Position.*

—	Description.	Extent of Guarantee by His Majesty's Government.	Date of Issue.	Nominal Amount.	Issue Price.	Net Proceeds.	Dividends Due.
				£		£	
(A.) Sudan Government Loans	1. 5½ per Cent. Guaranteed Bonds, 1929–59	Interest	October 1919 ..	3,500,000	95½	3,342,500	1st May, 1st November.
	2. Ditto, ditto	Interest ...	February 1921	2,880,000	92	2,649,600	
	3. 4½ per Cent. Guaranteed Stock, 1939–73	Principal and Interest	January 1923	3,250,000	93	3,022,500	1st February, 1st August.
	4. Ditto, ditto	Ditto	May 1924	513,400	95½	489,012	
	5. 4 per Cent. Guaranteed Stock, 1950–74	Ditto	November 1924	1,500,000	86	1,290,000	10th May, 10th November
(B.) Loans of construction companies in which the Sudan Government is the sole shareholder and for the service of which the Sudan Government is responsible							
1. Kassala Railway Company (Limited). Shares, £1 each, authorised and fully paid up, £300,000. Sudan Government sole shareholder. Interest payable out of proceeds Debenture Stock to 31st December, 1925	4½ per Cent. Guaranteed Debenture Stock, 1934–53	Principal and Interest (Trade Facilities Act, 1921)	January 1923	1,290,000	93	1,199,700	1st February, 1st August.
Ditto, ditto	Ditto	Ditto	January 1927	150,000	91	136,500	
2. Sudan Construction and Equipment Company (Limited). Shares, £1 each, authorised, issued and fully paid up, £10. Sudan Government sole shareholder. Interest payable out of proceeds Debenture Stock to 31st December, 1926.	4½ per Cent. Guaranteed Debenture Stock, 1931–45	Principal and Interest (Trade Facilities Acts, 1921–24)	February 1925	540,000	96½	521,100	1st February, 1st August.

Summary of Position.—(continued.)

——	Description.	Extent of Guarantee by His Majesty's Government.	Date of Issue.	Nominal Amount.	Issue Price.	Net Proceeds.	Dividends Due.
3. Gedaref Railway and Development Company (Limited). Shares, £1 each, authorised, issued and fully paid up, £100. Sudan Government sole shareholder	5 per Cent. Guaranteed Debenture Stock, 1932–62	Principal and Interest (Trade Facilities Acts, 1921–26)	February 1927	£ 2,160,000	100¼	£ 2,170,800	1st March, 1st September.
The Sudan Government is also interested in the under-mentioned company and has guaranteed the Debenture issue shown							
4. Sudan Light and Power Company (Limited). Nominal Share capital (£1 shares), £356,000. Shares issued, £354,500. Paid up: £1 on 5,007 shares; 1*s.* on 50,000 shares; 17*s.* on 299,493 shares. Interest payable out of proceeds Debenture Stock to 30th June, 1928	5 per Cent. Guaranteed Mortgage Debenture Stock, 1931–55	Principal and Interest (Trade Facilities Acts, 1921–25) and also by Sudan Government	1st July, 1925 (Taken up by Prudential Assurance Company	400,000 Proceeds paid in to Sudan Light and Power Company's account with Overseas Bank (Limited)	97	—	1st January, 1st July.

Khartum, November 6, 1928.

ANNEX.

The Lee Stack Indemnity Fund.

First Annual Report of the Supervisory Committee, 1927.

The balance of the fund, viz., £E. 473,102·922 m/ms. was paid over to the Sudan Government by His Britannic Majesty's Government on the 12th March, 1927.

2. Enclosure 1 contains the conditions on which the fund has been handed over to the Sudan Government.

The administration of the fund has been carried out in conformity with the prescribed conditions.

3. The present revised programme of expenditure approved by His Britannic Majesty's Secretary of State for Foreign Affairs is shown in enclosure 2.

4. Statements of accounts showing the position of the fund as on the 31st December, 1927, are given in enclosure 3.

5. The position at present is as follows :—

I.

Items charged to Capital Account.

Item 1 (*a*).—*Medical Research Laboratory, Khartum.*

The building is nearing completion and should be ready for occupation towards the end of the summer.

Item 1 (*b*).—*Travelling Railway Laboratory.*

The laboratory was completed on the 22nd December, 1927, and was taken immediately into use. The cost should approximate closely to the estimate.

Item 2.—*Travelling Ophthalmic Hospital.*

A launch for use by a medical inspector for ophthalmic and other medical work in Dongola Province has been purchased.

Items 3 *and* 4.—*Bilharzia Work.*

Dispensaries have been erected, drugs, dressings, equipment, instruments, furniture and tents have been provided, and Ford lorries purchased for this work.

Items 5 *and* 6.—*Medical Work in the South.*

It has been found necessary to revise the original estimates and the following sums have now been allotted for expenditure :—

	£E.
1. Torit Hospital	2,761
2. Yei Hospital	2,946
3. Rumbek Hospital (allotted in 1928)	3,537
4. Travelling Hospital	1,060
5. Ford lorries	500
6. Juba Hospital (allotted in 1928)	5,000

Items 1 *and* 2.—These allotments have been reduced from the original estimates as it was decided that wards could be replaced by huts.

Item 4.—Three small travelling hospitals have been provided as being more workable than the one large hospital originally proposed. These hospitals have been completed and brought into use.

Item 5.—Two Ford lorries have been purchased and used throughout 1927.

Item 6.—Work was not undertaken pending decision as to whether Juba was to be chosen as the administrative headquarters of Mongalla Province. £E. 5,000 has recently been allotted from the £E. 10,000 held in reserve for this hospital, as it has now been decided to move headquarters to Juba.

Item 7.—*Leper Buildings.*

The new buildings for lepers at Omdurman have been completed and taken into use.

Item 8.—*Hospital Barge.*

Provision of this barge has been postponed pending further investigation of medical requirements in southern areas.

Item 9.—*Education Buildings in the Southern Provinces.*

A sum of £E. 5,039 has been allotted to build a school and quarters for teaching staff at Wau in Bahr-el-Ghazal Province. These buildings were completed and taken into use in December 1927.

The original programme which involved an expenditure of £E. 8,668 has been curtailed.

Item 11.—*Library and Museum, Khartum.*

A sum of £E. 23,000 has been earmarked to provide a library and museum in proximity to the Gordon College at Khartum. Approval has been obtained to substitute this item for that which included a Gordon College dining hall and library and provision for twenty-four free scholarships at the Gordon College. A site has been selected and plans are being prepared.

The dining hall has been provided out of the Sudan Government funds. Provision of free scholarships has been deferred for further consideration.

Item 12.—*Almshouses for the Blind and Indigent, Omdurman.*

These almshouses have been completed and taken into use.

II.

Annual Grants from the Indemnity Fund.

Item 2.—*Ophthalmic Hospital Work.*

Approval has been given for the appointment of a medical inspector with ophthalmic experience.

Owing to the more pressing need of work on bilharzia and relapsing fever and the difficulty of obtaining staff, the special campaign against ophthalmia has been postponed. A considerable amount of work has been done against Sudan Government funds, but the provision of £E. 3,000 from the Indemnity Fund has been allowed to lapse as regards 1927.

Items 3 *and* 4.—*Bilharzia Work.*

An extensive campaign against this disease has been carried out in various parts of the country and is being continued. This work presents great difficulties, but promising results have been obtained.

The expenditure incurred by the Sudan Government justifies, in the opinion of the committee, a subvention from the fund of the full amount approved under this heading, namely, £E. 6,000, and it is possible that they may decide to increase this amount by granting the whole or a part of the £E. 3,000 not used for ophthalmia, if the Auditor-General, after investigating the accounts of the Medical Department, is of opinion that the bilharzia work is sufficiently responsible for the heavy excess on that department's expenditure.

Item 10.—*General Charity Fund.*

Small sums, in total £E. 2,500 have been put at the disposal of Governors of provinces for relief of destitute and helpless individuals.

It is proposed to continue this provision for three years experimentally.

Under the rules laid down for distribution of these charities each case is to be investigated by a British member of the district staff.

Charity is not to be distributed in such a manner as to encourage expectation of continuous relief.

These funds have so far been used very sparingly.

Item 12.—*Almshouses.*

Provision of £E. 800 per annum has been made to cover the maintenance of fifty immates, repair of buildings, and to provide an honorarium of £E. 50 per annum for the funds of the Church Missionary Society's hospital at Omdurman, in consideration of the staff's work in supervising and caring for the inmates of the almshouses.

H. P. HEWINS, *President.*

Enclosure 1 to Annex.

The fund is to be applied to the capital and recurrent expenditure shown on the attached schedule,* which has been approved by the Secretary of State.

2. The Sudan Government will open a special account for the fund, and will appoint a small body of two or three permanent officials who will be responsible for supervising and administering the expenditure of the moneys from the fund capital or income.

3. This body will receive reports from the several Departments and services of the Sudan Government to which any portion of the fund may have been allocated for capital or recurring expenditure, and will itself furnish to the Governor-General of the Sudan an annual report upon the administration of the fund. This report will be submitted to His Majesty's Government in the form of an annex to the Governor-General's annual report on the administration of the Sudan. The report will include :—

(*a.*) A statement of the capital position of the fund.
(*b.*) A statement of receipts and expenditure.
(*c.*) A certificate that the money has been expended only on schemes approved by the Secretary of State.
(*d.*) A certificate that the grants have reached the intended recipients.

These statements will be certified by the Auditor-General of the Sudan (who will not himself be a member of the administering body), and will be available for production, if necessary, to the Comptroller and Auditor-General in this country.

4. Where income from the fund is used to subsidise special projects which will ultimately be wholly or partially completed, *e.g.*, the campaign against bilharzia, the future allocation of the income or the capital thus set free to another object will be referred by the Sudan Government to the Secretary of State for prior approval.

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* Subsequently amended (with approval of His Britannic Majesty's Secretary of State for Foreign Affairs) as shown in enclosure 2.

Enclosure 2 to Annex.

THE LEE STACK INDEMNITY FUND.

(1.) *Capital Grants.*

Item.		£E.	Per Annum. £E.
1 (a.)	*Medical Research Laboratory, Khartum.*		
	Approved	19,000	
	Provisionally allocated	6,000	
	(b.) *Travelling Railway Laboratory*		25,000
2.	*Travelling Ophthalmic Hospital.*		5,000
	Provisionally allocated		
3 and 4.	*Bilharzia Work*		5,000
5 and 6.	*Medical Work (South).*		4,500
	Torit Hospital	4,324	
	Yei Hospital	4,658	
	Two Ford lorries	500	
	Reserved—		9,482
	For Juba Hospital	10,000	
	For Rumbek Hospital and Contingent (in the meantime interest on this £E. 14,798 to be utilisable for sleeping sickness work)	4,798	
			14,798
7.	*Leper Buildings, Omdurman*		2,000
8.	*Hospital Barge.*		
	Provisionally allocated		5,000
9.	*Education Buildings in Southern Provinces.*		
	Reserved pending settlement of educational policy in the south		20,000
11.	*Library and Museum, Khartum*		23,000
12.	*Alms-house, Omdurman*		1,500
	Reserved for extensions		1,500
			116,780

(2.) *Annual Grants.*

Item.			
2.	*Ophthalmic Hospital*		3,000
3 and 4.	*Bilharzia*		6,000
5 and 6.	*Medical Work (South).*		
	(i.) Travelling hospital	3,290	
	(ii.) Upkeep of Ford lorries	496	
			3,786
10.	*General Charity Fund*		2,500
12	*Alms-house, Omdurman*		750
	Honorarium		50
			16,086

Enclosure 3 to Annex.

CAPITAL ACCOUNTS.

Section A.

No.	—	Expenditure in 1926.	Expenditure in 1927.	Expenditure up to December 31, 1927.
		£ E.	£ E.	£ E.
1 A	Medical Research Labs. ...	...	5,746·233	5,746·233
1 B	Travelling Railway Labs.	496·148	3,885·437	4,381·585
2	Ophthalmic Hospital ...	...	3,017·365	3,017·365
3 and 4	Bilharzia Work	2,180·550	...	2,180·550
5 and 6	Medical Work, South:			
	Torit Hospital	...	...	...
	Yei Hospital	...	...	...
	Travelling Hospitals ...	404·778	647·653	1,052·431
	Lorries for S.S. Work ...	173·225	188·411	361·636
7	Leper Hospital, Omdurman	3·740	1,965·873	1,969·613
8	Hospital Barge	...	...	...
9	Education Building, South: Wau	1,474·460	2,523·698	3,998·158
11	Gordon College, Museum and Library	...	...	...
12	Alms-house Buildings ...	...	370·051	370·051
		4,732·901	18,344·721	23,077·622
	Balance carried forward			93,702·378
				116,780·000

No.	—	Approved for Capital Expenditure.	Amount Transferred from Section B.	Deduct Economies on completion transferred to Section B.	Net Amount Approved.
		£ E.	£ E.	£ E.	£ E.
1 A	Research Labs.	25,000	...	...	25,000
1 B	Travelling Railways Labs.	5,000	...	...	5,000
	Ophthalmic Hospital ...	5,000	...	...	5,000
3 and 4	Bilharzia Work	4,500	...	...	4,500
5 and 6	Medical Work, South:				
	Torit Hospital	2,761	...	...	2,761
	Yei Hospital	2,946	...	...	2,946
	Travelling Hospitals ...	1,060	...	...	1,060
	Lorries for S.S. Work ...	500	...	...	500
	Unallotted	17,013	...	...	17,013
7	Leper Hospital, Omdurman	2,000	...	...	2,000
8	Hospital Barge (Prov. allocated)	5,000	...	...	5,000
	Education Buildings, South:				
	Wau	5,039	...	...	5,039
	Unallotted	14,961	...	...	14,961
	Museum and Library ...	23,000	...	...	23,000
	Alms-houses, Omdurman ...	1,500	...	...	1,500
	Reserved for Extension ...	1,500	...	...	1,500
		116,780	...	...	116,780
					116,780

Section B.

Amount transferred to Section A	...	Amount of Capital earmarked to endow the annual grants	356,322·922
		Amount transferred from Section A (if any)	...
Balance carried forward	356,322·922	Amount transferred from Income and Expenditure Account (if any)	...
	356,322·922		356,322·922

Income and Expenditure Account.

	£ E.	£ E.
Expenditure incurred by Sudan Government in 1926:—		
Items 3 and 4, Bilharzia		4,722·401
Items 5 and 6—		
(i) Travelling Hospital		109·682
(ii) Upkeep of Fords		50·146
		4,882·229
Expenditure in 1927:—		
Items 3 and 4, Bilharzia Work	6,000·000	
Items 5 and 6, S.D.F. Subvention for medical work in South	3,786·000	
Item 10, Charity Fund	555·077	
Item 12, Alms-houses	222·510	
		10,563·587
Surplus carried forward		7,877·712
		23,323·528

	£ E.
Interest on Investments	23,192·817
Profit on conversion of War Bonds to War Loan... ...	130·711
	23,323·528

Balance Sheet.

Capital Account:—			
Section A			93,702·378
Section B			356,322·922
Sundry Creditors:—			
Sudan Government for advances			17,853·438
Revenue Account Surplus			7,877·712
			475,756·450

Investments at Cost.		Nominal Value.	Cost.
5 per Cent. National War Loan, 1929–47	(£ stg.)	448,800	439,593·452
5 per Cent. National War Bonds, 1928	(£ stg.)	18,700	19,270·448
National War Bonds, 1929	(£ stg.)	4,000	4.097·994
Treasury Bills due March 3, 1928 ...	(£ stg.)	10,000	9,645·594
			472,607·488
Cash at Bank of England			3,148·962
			475,756·450

I have audited the accounts of which the foregoing is the Balance Sheet and certify it to be correct.

I am satisfied from the certificate and vouchers submitted to me that the money has only been expended on schemes approved by His Britannic Majesty's Secretary of State for Foreign Affairs and has reached the intended recipients.

Khartum, May 5, 1928.

F. B. HARDINGE, *Auditor-General,*
Sudan Government.

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